ORDER NO. GAD8507509C1
I2

# Service Manual

Car Audio

## RM-1300A
## RM-1400A

(Black)

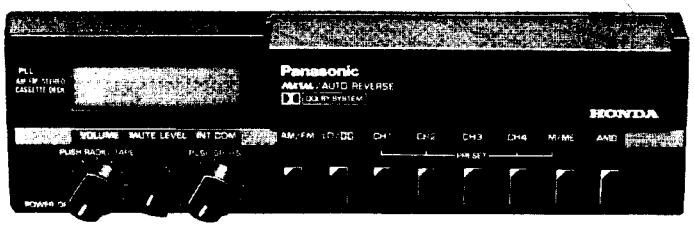
FM-AM-FM STEREO
CASSETTE DECK/TUNER/AMPLIFIER

**CUSTOM-MADE FOR HONDA**

DOLBY SYSTEM

This is the Service Manual for the following area.

M ···For U.S.A.




Spare parts for this model have already been unable to supply.
However,we un-offcially may supply a few items.
Please contact us regarding this matter.

## ■ SPECIFICATIONS

**General**

| | |
|---|---|
| Power Source: | DC 12V (Negative ground only) |
| Test Voltage: | DC 14V |
| Power Consumption: | 0.8A at maximum power output (Memory backup 0.5mA) |
| Dimensions: | 208mm(W)×64mm(H)×144mm(D) ($8^{3}/_{16}$×$2^{9}/_{16}$×$5^{11}/_{16}$) without bracket |
| Weight: | 1.7kg (3 lb $^{3}/_{4}$ oz) without bracket |

**FM Tuner Section**

| | |
|---|---|
| Frequency Range: | 87.5~107.9MHz |
| Usable Sensitivity: | 8dB (S/N 30dB) |
| Signal to Noise Ratio: | 55dB |
| Stereo Separation: | 35dB at 1kHz |
| THD: | 0.5% |
| IF Frequency: | 10.7MHz |

**AM Tuner Section**

| | |
|---|---|
| Frequency Range: | 530~1620kHz |
| Usable Sensitivity: | 34dB (S/N 20dB) |
| Selectivity: | 50dB (±10kHz) |
| IF Frequency: | 450kHz |

**Cassette Deck Section**

| | |
|---|---|
| Tape System: | Auto-reverse |
| Wow & Flutter: | 0.15% (WRMS) |
| Stereo Separation: | 35dB at 1kHz |

**Intercom Section**

| | |
|---|---|
| Mike Input Impedance: | 600Ω |
| Headphone Output: | 0.5W (16Ω/CH) |

*"Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.
Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.
Weights and dimensions shown are approximate.
Design and specifications are subject to change without notice.

Panasonic

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# LOCATION OF CONTROLS AND COMPONENTS

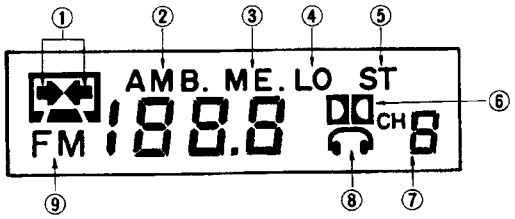



Fig. 1

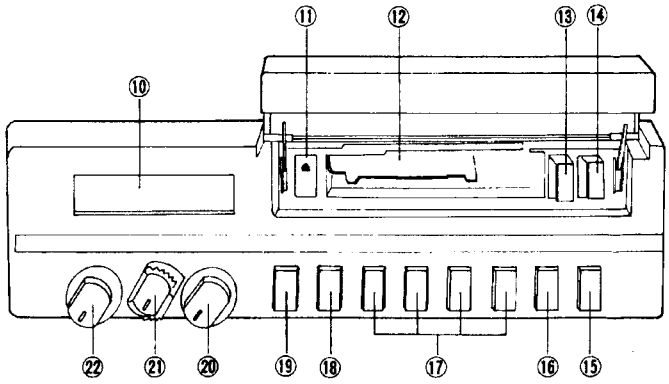



Fig. 2

① Direction Indicators
② Ambience Indicator
③ Metal/Memory Indicator
④ Local/DX Indicator
⑤ FM Stereo Indicator
⑥ Dolby Indicator
⑦ Preset CH Indicator
⑧ Headset Indicator
⑨ AM/FM Indicator
⑩ LCD Display
⑪ Eject Button
⑫ Tape Slot
⑬ Rewind Button
⑭ Fast Forward Button
⑮ Ambience Switch (ON/OFF)
⑯ Metal/Memory Switch (M/ME)
⑰ Preset Switches (CH1/PRO., CH2, CH3, CH4)
⑱ Sensitivity Switch, Dolby Switch (DX/LOCAL, DOLBY ON/OFF)
⑲ Band Switch (AM, FM)
⑳ Speaker/Headset Switch, Intercom Switch/Control Volume (PUSH SP/HS)
㉑ Mute Level Control (MUTE LEVEL)
㉒ Radio/Tape Switch, Power Switch, Volume Control (PUSH RADIO/TAPE, POWER OFF)

# DISASSEMBLY INSTRUCTIONS

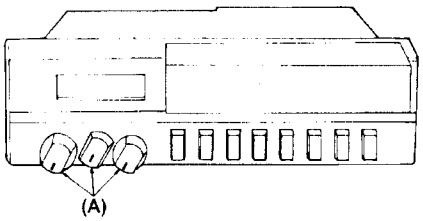



Fig. 1

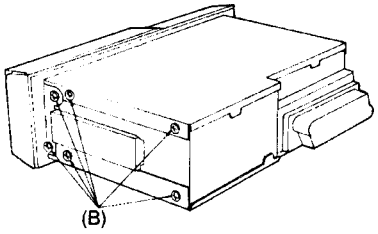



Fig. 2

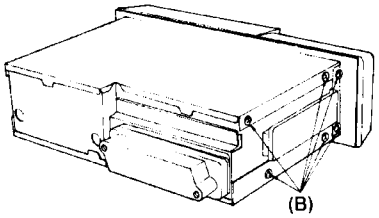



Fig. 3

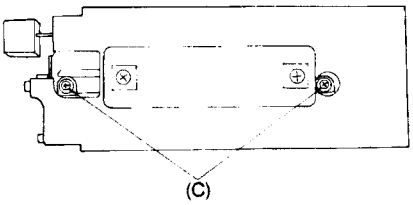



Fig. 4

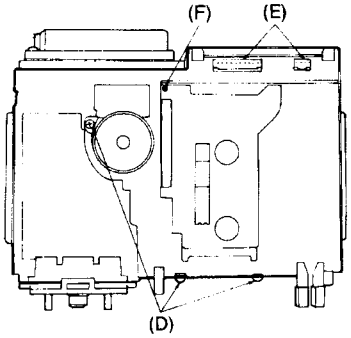



Fig. 5

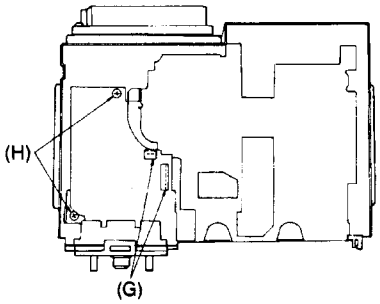



Fig. 6

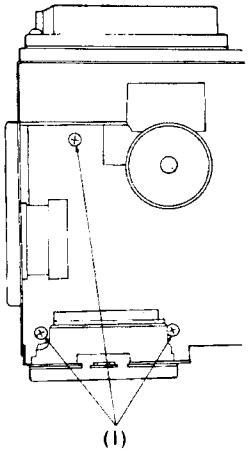



Fig. 7

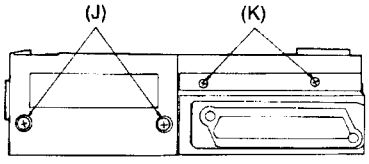



Fig. 8

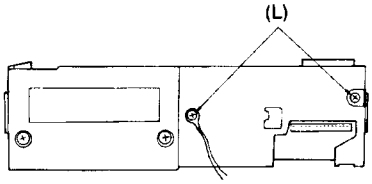



Fig. 9

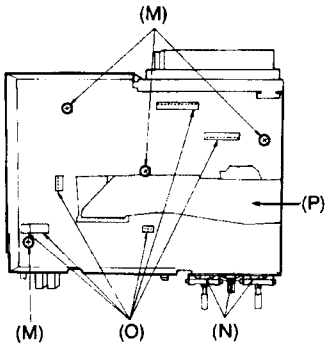



Fig. 10

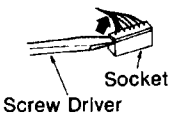



Fig. 11

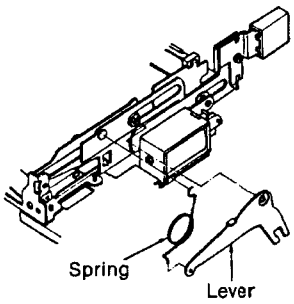



Fig. 12

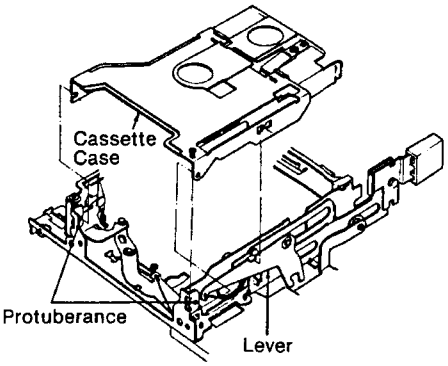
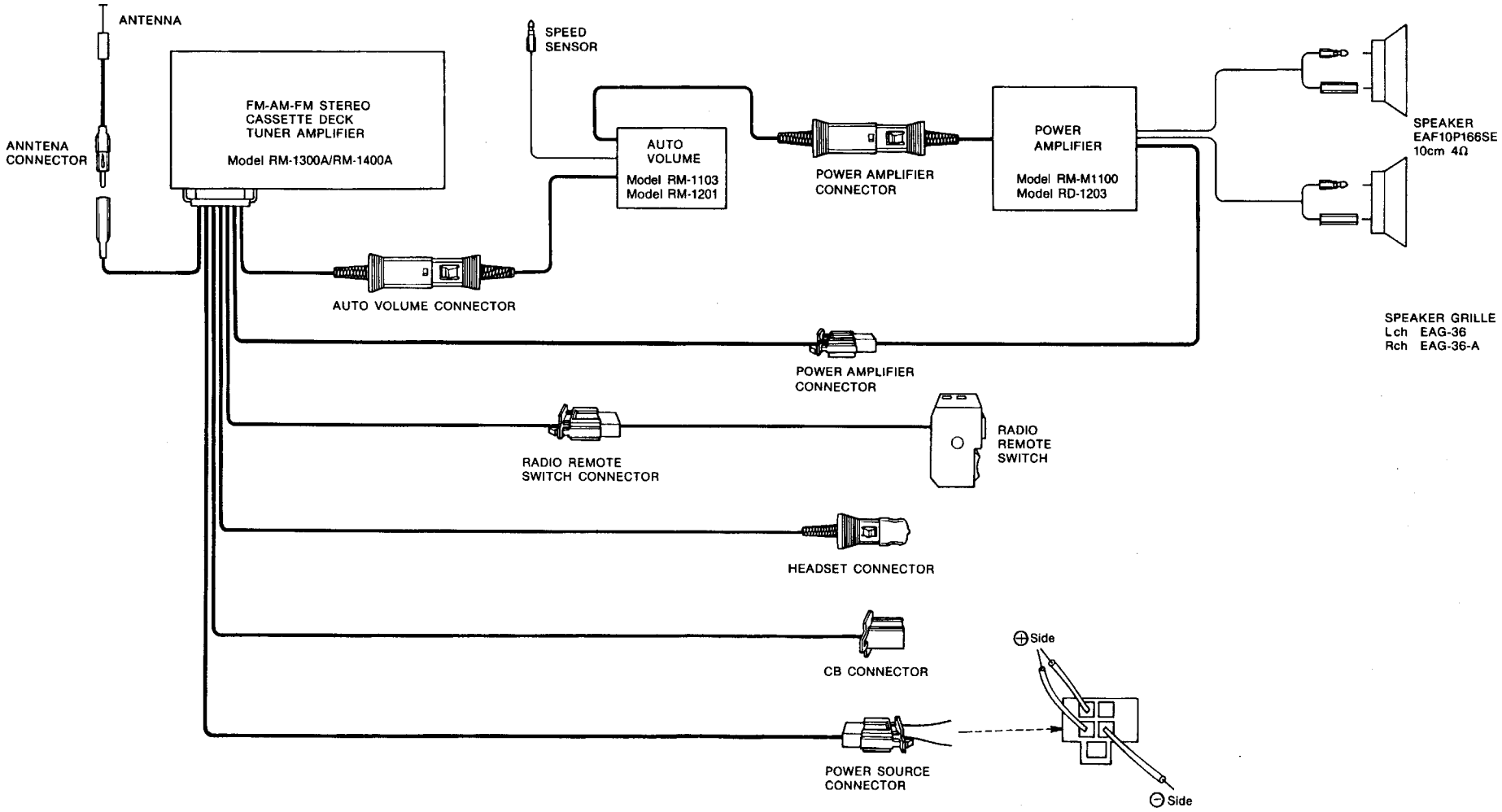



Fig. 13

| Ref. No. | Procedure | Shown in Fig. —. | To remove —. | Remove —. |
|---|---|---|---|---|
| 1 | 1, 2 | 1 | Front Panel, Covers | Knob .....(A)×3 |
| 2 | | 2, 3 | | Screw (3×6) mm .....(B)×12 |
| 3 | 1~5 | 4 | Mechanism | Screw (2.6×5) mm .....(C)×2 |
| 4 | | 5 | | Screw (2.6×5) mm .....(D)×3 |
| 5 | | | | Socket *1 .....(E)×2 |
| 6 | 1~6 | 5 | Cassette Case *2 | Loosen screw .....(F)×1 |
| 7 | 1~8 | 6 | AM Circuit Board | Socket *1 .....(G)×2 |
| 8 | | | | Screw (3×6) mm .....(H)×2 |
| 9 | 1~9 | 7 | LCD Circuit Board | Screw (3×6) mm .....(I)×3 |
| 10 | 1~5, 10 | 8 | Deck EQ & Ambience Circuit Board | Screw (3×6) mm .....(J)×2 |
| 11 | 1, 2, 11, 12 | 8 | Power Source Circuit Board | Screw (3×4) mm .....(K)×2 |
| 12 | | 9 | | Screw (3×4) mm .....(L)×2 |
| 13 | 1, 2, 13~16 | 10 | Main Circuit Board | Screw (3×6) mm .....(M)×4 |
| 14 | | | | Nut (7ϕ) .....(N)×3 |
| 15 | | | | Socket *1 .....(O)×7 |
| 16 | | | | Jumper (FPC) .....(P)×1 |

*1. Remove socket in the direction of arrow as shown in fig. 11.
*2. To reassemble, note the following.
(1) Insert the lever and spring in mechanism, as shown in fig. 12.
(2) Insert the cassette case as shown in fig. 13.

# AUDIO SYSTEM CONNECTION








▼ Be sure to fold at the (▼) mark so that mark is on the outside.

# HARNESS CONNECTION

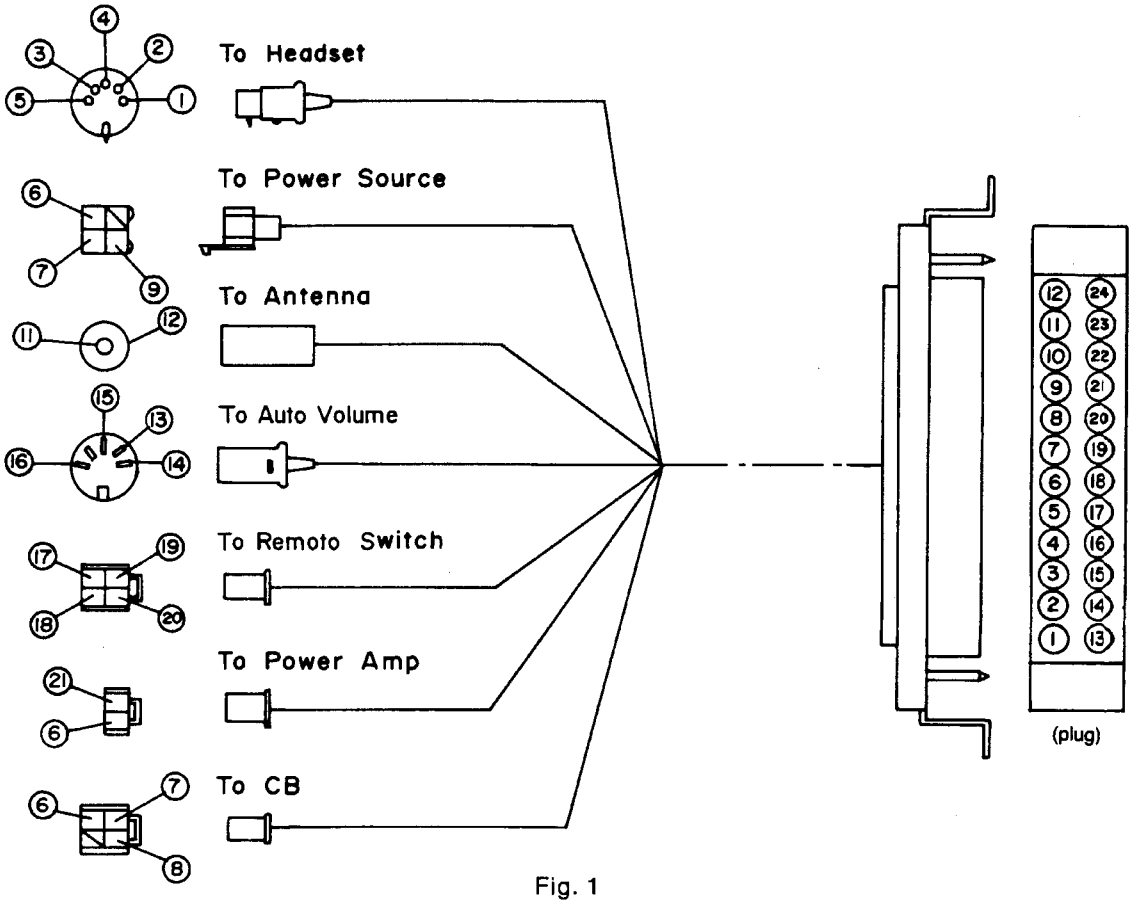
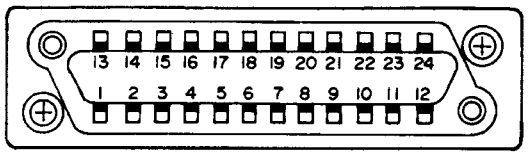



Fig. 1



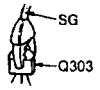

(socket)

| | |
|---|---|
| ① Microphone | ⑬ Rch |
| ② Earth | ⑭ Lch |
| ③ Rch | ⑮ Earth |
| ④ Earth | ⑯ +B Out |
| ⑤ Lch | ⑰ Mute |
| ⑥ Acc | ⑱ Up |
| ⑦ CB | ⑲ Down |
| ⑧ Earth | ⑳ Earth |
| ⑨ Earth | ㉑ Earth |
| ⑩ Earth | ㉒ Earth |
| ⑪ Antenna | ㉓ Earth |
| ⑫ Earth | ㉔ Earth |

Fig. 2

# MEASUREMENTS AND ADJUSTMENTS

1. Set power switch to ON.
2. Mute switch on Remote switch to OFF.
3. SP/HS switch to HS.




4. Set volume control to maximum.
5. Set band switch to AM, FM.
6. Set SENS switch to DX.

## ■ AM IF ALIGNMENT

| | BAND | SIGNAL GENERATOR or SWEEP GENERATOR | | FREQUENCY DISPLAY SETTING | INDICATOR (ELECTRONICS VOLTMETER or SCOPE) | ADJUSTMENT | REMARKS |
|---|---|---|---|---|---|---|---|
| | | CONNCTIONS | FREQUENCY | | | | |
| | AM-IF ALIGNMENT | | | | | | |
| (1) | AM | ⑨.....(+)<br>Earth.....(−)<br>SG, Q303 | 450 kHz 30% Mod. at 400 Hz | Point of non-interference. (on/ about 600 kHz) | ⑨...(+)<br>Ⓔ...(−) | T302 (AM 1st IFT)<br>T303 (AM 2nd IFT) | Adjust for maximum output. |

## ■ AM RF ALIGNMENT

| | BAND | AM SIGNAL GENERATOR | | FREQUENCY DISPLAY SETTING | DC VOLT METER | ADJUSTMENT | REMARKS |
|---|---|---|---|---|---|---|---|
| | | CONNECTIONS | FREQUENCY | | | | |
| (1) | AM | Disconnect | No signal applied | 530 kHz | ⑫...(+)<br>Ⓔ...(−) | L303 (AM OSC Coil) | Adjust for 1.2±0.05 V readig on DC voltmeter |
| (2) | | Disconnect | No signal applied | 1620 kHz | ⑫...(+)<br>Ⓔ...(−) | CT302 (AM OSC Trimmer) | Adjust for 7.8±0.1 V reading on DC voltmeter |
| (3) | | Repeat steps (1) and (2). | | | | | |

| | BAND | AM SIGNAL GENERATOR | | FREQUENCY DISPLAY SETTING | AC VOLT METER | ADJUSTMENT | REMARKS |
|---|---|---|---|---|---|---|---|
| | | CONNECTIONS | FREQUENCY | | | | |
| (4) | AM | Connect to antenna socket through AM RF dummy antenna. (Refer to Fig. 6) | 600 kHz | 600 kHz | ⑮...(+)<br>Ⓔ...(−) | L301 (AM ANT Coil)<br>L304 (AM ANT Coil) | Adjust for maximum reading on AC voltmeter |
| (5) | | " | 1400 kHz | 1400 kHz | ⑮...(+)<br>Ⓔ...(−) | CT301 (AM ANT Trimmer)<br>CT303 (AM ANT Trimmer) | " |
| (6) | | Repeat steps (4) and (5). | | | | | |

## ■ AM NB ALIGNMENT

| BAND | AM SIGNAL GENERATOR | | FREQUENCY DISPLAY SETTING | OSCILLO SCOPE | ADJUSTMENT | REMARKS |
|---|---|---|---|---|---|---|
| | CONNECTIONS | FREQUENCY | | | | |
| AM | Connect to antenna socket through AM RF dummy antenna. (Refer to Fig. 6) | 600 kHz (400 Hz, 0% Mod. 74 dB) | 600 kHz | ⑩.....(+)<br>Ⓔ.....(−) | T301 (AM NB) | Adjust for maximum wave from on oscilloscope. |

## ■ FM ALIGNMENT

| | BAND | SIGNAL GENERATOR or SWEEP GENERATOR | | FREQUENCY DISPLAY SETTING | INDICATOR (ELECTRONICS VOLTMETER or SCOPE) | ADJUSTMENT | REMARKS |
|---|---|---|---|---|---|---|---|
| | | CONNCTIONS | FREQUENCY | | | | |
| | FM-IF ALIGNMENT | | | | | | |
| (1) | FM | High side thru. 0.001μF to test point ⑨, Negative side to test point Ⓔ. | 10.7 MHz SWP. | Point of non-interference. (on/ about 90 MHz) | Connect vert. amp. of scope to test point ⑨. Negative side to test point Ⓔ. | T1 (FM 1st IFT) | Adjust for maximum amplitude. (Refer to Fig. 3) |
| (2) | FM | " | " | " | " | T3 (FM 2nd IFT) | Adjust for maximum amplitude. (Refer to Fig. 4) |

## ■ FM RF ALIGNMENT

| | BAND | FM SIGNAL GENERATOR | | FREQUENCY DISPLAY SETTING | DC VOLTMETER | ADJUSTMENT | REMARKS |
|---|---|---|---|---|---|---|---|
| | | CONNECTIONS | FREQUENCY | | | | |
| (1) | FM | Disconnect | No signal applied | 87.5 MHz | ⑫...(+)<br>⑤...(−) | L5 (FM OSC Coil) | Adjust for 1.2±0.05 V readig on DC voltmeter. |
| (2) | | Disconnect | No signal applied | 107.9 MHz | ⑫...(+)<br>⑤...(−) | CT3 (FM OSC Trimmer) | Adjust for 8±0.1 V reading on DC voltmeter. |
| (3) | | Repeat steps (1) and (2). | | | | | |

| | BAND | FM SIGNAL GENERATOR | | FREQUENCY DISPLAY SETTING | AC VOLTMETER | ADJUSTMENT | REMARKS |
|---|---|---|---|---|---|---|---|
| | | CONNECTIONS | FREQUENCY | | | | |
| (4) | FM | Antenna socket (FM RF Dummy Fig. 7) | 90.1 MHz (400 Hz 30%) | 90.1 MHz | ⑫...(+)<br>⑤...(−) | L1 (FM ANT Coil)<br>L4 (FM ANT Coil) | Adjust for maximum reading on AC voltmeter |
| (5) | | " | 106.1 MHz (400 Hz 30%) | 106.1 MHz | ⑫...(+)<br>⑤...(−) | CT1 (FM ANT Trimmer)<br>CT2 (FM ANT Timmer) | " |
| (6) | | Repeat steps 4 and 5. | | | | | |

## ■ DC BALANCE NB ALIGNMENT

| BAND | FM SIGNAL GENERATOR | | FREQUENCY DISPLAY SETTING | DC VOLTMETER (center "0") | ADJUSTMENT | REMARKS |
|---|---|---|---|---|---|---|
| | CONNECTIONS | FREQUENCY | | | | |
| FM | Antenna scoket | 90.1 MHz (400 Hz, 30% Mod, 60 dB) | 90.1 MHz | ⑦.....(+)<br>③.....(−) | T3 (FM 2nd IFT) | Adjust T3 for −0.05~0.05 V reading on DC voltmeter. |

## ■ FM STEREO ALIGNMENT

Notes: 1. Stereo modulator ..... •Connect stereo modulator output to EXT MOD terminal of signal generator.
•Pilot signal modulation to "10%".
2. FM signal generator ..... •Frequency approximately 100 MHz/Output level to "60~70 dB", 1~3 mV.
•Modulation mode to "FM".

| CIRCUIT | SIGNAL GENRATOR | FREQUENCY COUNTER | AC VOLTMETER | ADJUSTMENT | REMARKS |
|---|---|---|---|---|---|
| PILOT | 90.1 MHz (0% Mod, 80 dB) | High side thru, 100 kΩ to test point ⑨. Negative side to ⑤. | —— | VR2 (Pilot) | Adjust for 76.00 kHz±50 Hz readign on frequency counter. |
| SEPARATION | 90.1 MHz (400 Hz, 30% Mod, 80 dB) | —— | ⑰...Lch (+)<br>⑯...Rch (+)<br>⑤...(−) | VR1 (Separation) | Make adjustment so that when the antenna input is subjected to L modulation (or R modulation.) R channel output (or L channel output) becomes minimum. |

## ■ AZIMUTH ALIGNMENT

| TAPE | AC VOLTMETER① | AC VOLTMETER② | ADJUSTMENT | REMARKS |
|---|---|---|---|---|
| Playback the azimuth tape. QZZCAC (10 kHz~20 dB) | ⑦...(+)<br>⑤...(−) | Across headset<br>⑪...(+)<br>⑤...(−) | Azimuth Screw (Refer to Fig. 5) | Adjust for same reading on AC voltmeter① and ②. |

## ■ DOLBY LEVEL ALIGNMENT

| ITEM | INPUT | MEASUREMENT POINT | SPECIFICATION | ADJUSTMENT POINT | REMARKS |
|---|---|---|---|---|---|
| Dolby Level | Tape QZZCFM (315 Hz 0 dB) | ⑦...(R)<br>⑪...(L)<br>⑤...(−) | 420 mV±1 dB | VR501 (R)<br>VR502 (L) | Dolby switch ...OFF |

## ■ ALIGNMENT POINT

*See the schematic diagram and the circuit board and wiring connection diagram for the location of the test points.

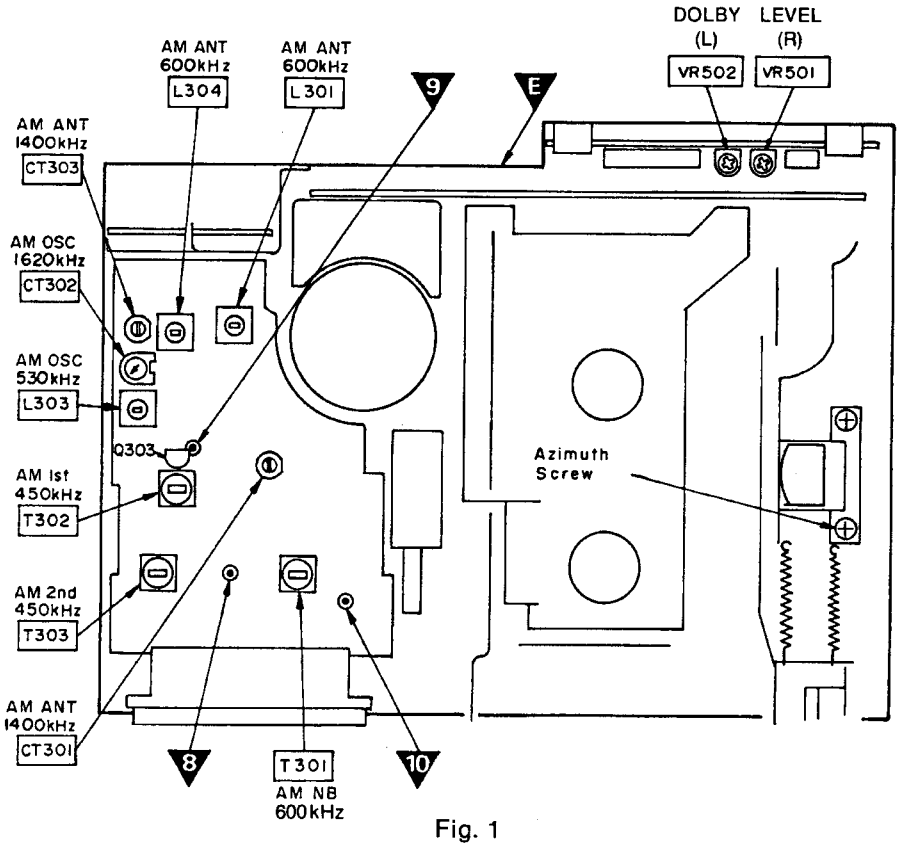



Fig. 1

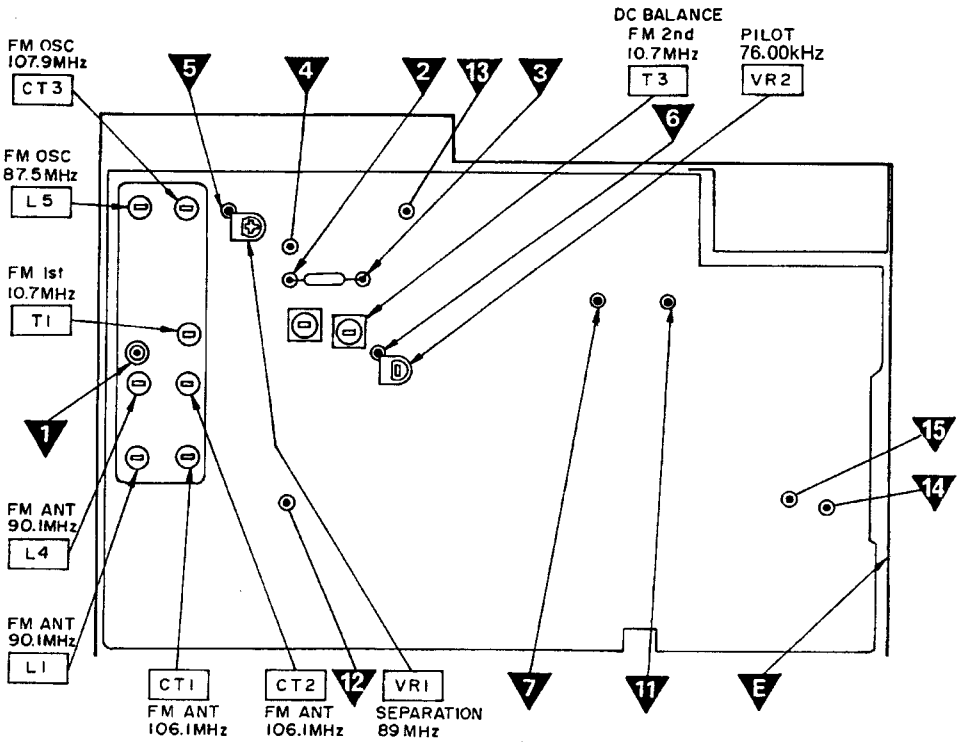



Fig. 2

■ **WAVE FORM**

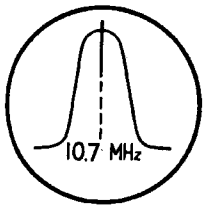



Fig. 3

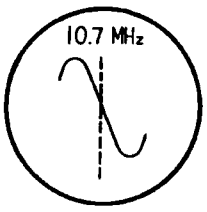



Fig. 4

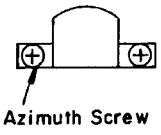



Fig. 5

■ **AM RF DUMMY ANTENNA**

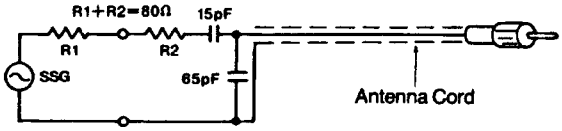



Fig. 6

■ **FM RF DUMMY ANTENNA**

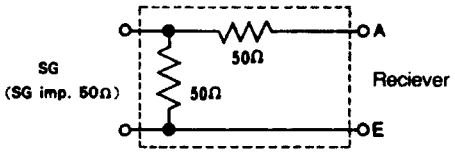



Fig. 7

# LIQUID CRYSTAL DISPLAY (LCD)

**1) The common and segment terminals of the LCD are connected in the following way:**

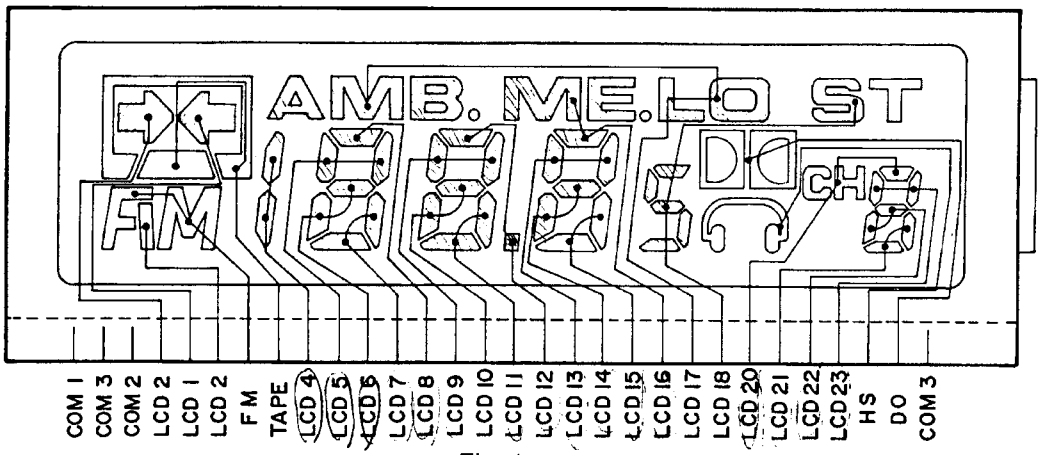



Fig. 1

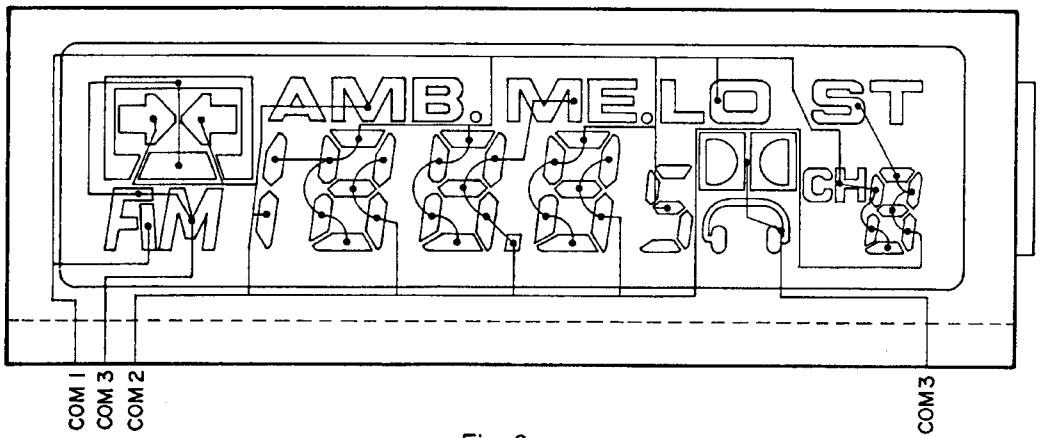



Fig. 2

### 2) Output signal waveforms of LCD segment

The illumination or nonillumination of segments (LCD1~23) on the LCD is determined by the combination of the segment drive signal and the common drive signals (COM1 and 2) from IC401. (See Fig. 3.)
The illumination or nonillumination of segments other than LCD1~23 (FM, Tape, HS, DO) is determined by the combination of the 80Hz signal made by the oscillation circuits in Q403 and Q404 and the segment drive signal made in IC402.
ex. Example display ("3")

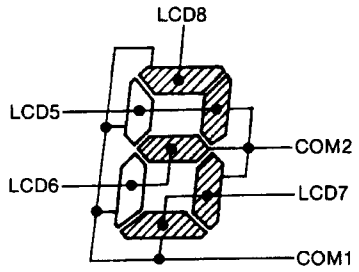



Fig. 3

# UPD1708G555 (IC401): EACH TERMINAL FUNCTION & WAVEFORM

### 1) Terminal View

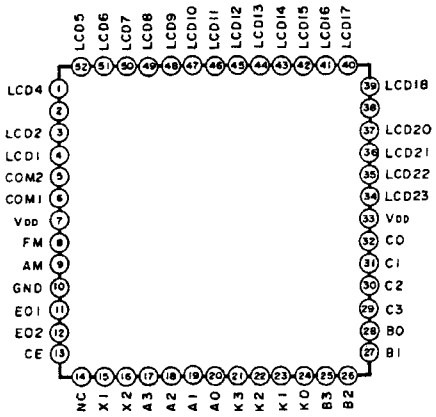



Fig. 1

### 2) Block Diagram

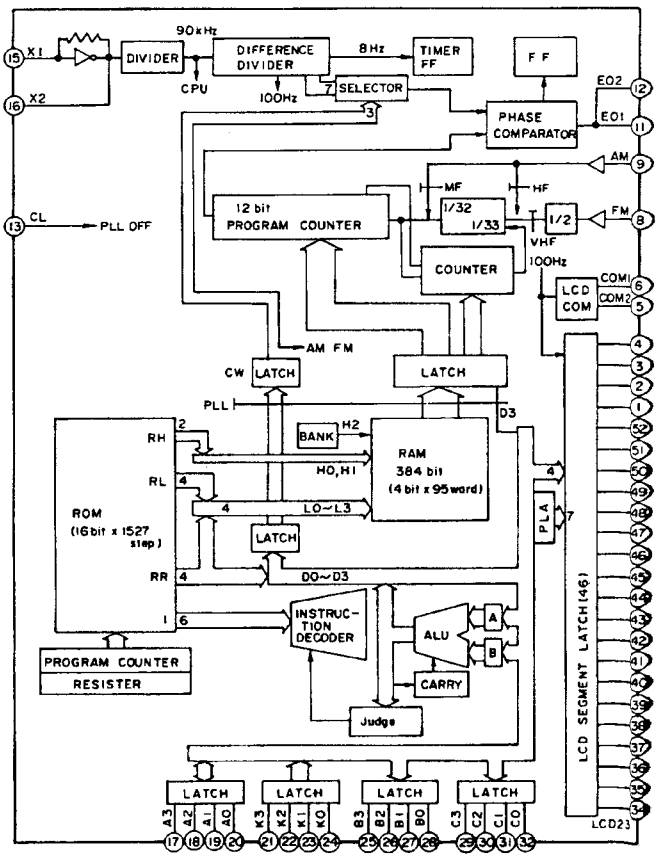



Fig. 2

## 3) Function of terminal (PLL controller IC401)

| Pin No. | Mark | Description of terminal |
|---|---|---|
| 1<br>~<br>4<br>34<br>~<br>52 | LCD4<br>~<br>LCD1<br>LCD23<br>~<br>LCD5 | Segment signal output terminal for display. (Refer to Fig. 1.) |
| 5 | COM2 | Common signal output terminal connected to LCD. Output is delivered in 3 values of ground, 1/2$V_{DD}$ and $V_{DD}$ (at 5ms intervals) in a period of 50Hz. The segment turns ON when the difference in voltage is ± $V_{DD}$ between these terminals and LCD1~LCD23. |
| 6 | COM1 | |
| 7 | $V_{DD}$ | Power supply terminal of device. Voltage of 5V±10% is supplied during operation of device. To hold the internal data memory (RAM), the voltage can be decreased to 2.5V.<br>**Note:** Pins 7 and 33 are connected inside the chip. It is unnecessary to supply voltage to the pins. |
| 33 | $V_{DD}$ | |
| 8 | FM | Input is local oscillator output (VCO) in a range of 10~130MHz (0.3Vp-p, min.).<br>There are 1/2 fixed frequency division prescaler and 2-step (1/32, 1/33) prescaler internally. Therefore, when deciding the frequency dividing value of programmable divider, it must be decided from the frequency obtained by halving the local oscillator output (VCO). |
| 9 | AM | Input is local oscillator output (VCO) in a range of 0.5~20MHz (0.1Vp-p, min.).<br>When the mode is shifted to FM, the AM terminal voltage automatically becomes the supply voltage of device. |
| 10 | GND | Ground terminal. |
| 11 | E01 | When the divided oscillator frequency is higher than the standard frequency, H-level output is delivered from these terminals.<br>When it is lower, L-level (0V) output is delivered. When they coincide, it results in floating. |
| 12 | E02 | |
| 13 | CE | Device selection signal input terminal. The signal level should be high when the device is operated, and low when not operated.<br>With this terminal shifted to low level, LCD (liquid crystal display) turns off and the memory is held. |
| 14 | NC | Not used in this unit. |
| 15 | X1 | Connecting terminal for crystal oscillator. The crystal connected is 4.5MHz. |
| 16 | X2 | |
| 17 | A3 (SD) | Inputs high signal when broadcast is received during auto tuning in the radio mode and low signal at all other times. |
| 18 | A2 | Outputs high signal when ambience switch is pressed and turns on Q18. |

| Pin No. | Mark | Description of terminal |
|---|---|---|
| 19 | A1 | —— |
| 20 | A0 | —— |
| 21 ≀ 24 | K3 ≀ K0 | Input terminal for key return signal from switch matrix. |
| 25 ≀ 28 | B3 ≀ B0 | Output terminal for key scan signal to switch matrix. |
| 29 | C3 | Output METAL-Dx/Lo |
| 30 | C2 | Outputs switching signal for FM/AM bands. When high signal is output, FM demodulation circuit operates and FM mode is set. |
| 31 | C1 | Outputs muting signal. Normally high; low during muting. |
| 32 | CO | Not used in this unit. |
| 33 | Vcc | +5V terminal. |

# ELECTRICAL PARTS LIST

**Numbering System of Resistor**

**Example**

| ERD | 25 | F | J | 101 |
|---|---|---|---|---|
| Type | Wattage | Shape | Tolerance | Value (100Ω) |
| ERX | 2 | AN | J | 2R2 |
| Type | Wattage | Shape | Tolerance | Value (2.2Ω) |

| Resistor Type | Wattage Tolerance |
|---|---|
| ERD: Carbon<br>ERG: Metal Film<br>ERX: Metal Film<br>ERQ: Fuse Type Metal<br>RRD: Carbon (Chip Type) | 10 : 1/8 W J : ±5%<br>12 : 1/2 W<br>25 : 1/4 W<br>1 : 1 W<br>18 : 1/8 W |

**Numbering System of Capacitor**

**Example**

| ECKD | 1H | 102 | Z | F |
|---|---|---|---|---|
| Type | Voltage | Value (1000 pF) | Tolerance | Peculiarity |
| ECEA | 50 | M | R47 | |
| Type | Voltage | Peculiarity | Value (0.47 μF) | |

| Capacitor Type | Voltage | | Tolerance |
|---|---|---|---|
| | ECEA Type | Other | |
| ECEA: Electrolytic<br>ECCD: Ceramic<br>ECKD: Ceramic<br>ECQM: Polyester<br>ECQP: Polypropylene<br>ECET: Electrolytic<br>ECEA□□□N: Non Polar Electrolytic<br>QCU□: Ceramic (Chip Type)<br>ECUX: Ceramic (Chip Type) | 0J : 6.3 V<br>1A : 10 V<br>1C : 16 V<br>1E : 25 V<br>1H : 50 V<br>1V : 35 V<br>50 : 50 V<br>25 : 25 V<br>16 : 16 V | 2H : 500 V DC<br>1 : 100 V<br>DKC : 400 V AC | C : ±0.25 pF<br>J : ±5%<br>K : ±10%<br>Z : +80%, −20%<br>P : +100%, −0% |

| Ref. No. | Part No. | Part Name & Description |
|---|---|---|
| **INTEGRATED CIRCUITS** | | |
| IC 1 | **LA1170** | Integrated Circuit |
| IC 2 | **RVILA1140** | Integrated Circuit |
| IC 3 | **RVISTK2110D** | Integrated Circuit |
| IC 4 | **RVILA3375** | Integrated Circuit |
| IC 5 | **RVITC4011BP** | Integrated Circuit |
| IC 6 | **RVITA78L006P** | Integrated Circuit |
| IC 7 | **RVIM51203L** | Integrated Circuit |
| IC 8 | **RVIUPC1228H** | Integrated Circuit |
| IC 9 | **RVIBA6133** | Integrated Circuit |
| IC 10 | **RVILM1131C** | Integrated Circuit |
| IC 11 | **RVITA7230P** | Integrated Circuit |
| IC 301 | **RVIUPC1215VE** | Integrated Circuit |
| IC 302 | **RVIM57171L** | Integrated Circuit |
| IC 401 | **UPD1708G555** | Integrated Circuit |
| IC 402 | **RVITC4030BP** | Integrated Circuit |
| IC 501 | **RVIUPC1228H** | Integrated Circuit |
| IC 502 | **RVIUPC78L08** | Integrated Circuit |
| IC 701 | **AN6248** | Integrated Circuit |
| IC 702, 703 | **DM106** | Integrated Circuit |
| **TRANSISTORS** | | |
| Q 1 | **3SK114Y** | Transistor |
| Q 2, 4, 5, 10, 11, 12, 13, 15, 16, 19, 23, 34, 36, 37, 41, 44 | **2SD601R** | Transistor |
| Q 6, 7 | **2SD601S** | Transistor |
| Q 8, 9 | **2SD601Q** | Transistor |
| Q 14, 17, 26, 27, 28, 29, 30, 31, 32, 33 | **2SB709** | Transistor |
| Q 18 | **2SK160K5** | Transistor |
| Q 38, 43 | **2SA683R** | Transistor |
| Q 40 | **2SA952K2** | Transistor, Si 160MH 0.6W |
| Q 42 | **2SC1383Q** | Transistor |
| Q 45 | **2SC2404C** | Transistor |
| Q 46, 751, 752 | **2SC1685-Q** | Transistor |
| Q 301 | **2SK184BL** | Transistor |
| Q 302 | **2SC2295B** | Transistor, Si 250MH 0.1W |
| Q 303 | **2SC1359B** | Transistor |
| Q 401 | **2SK160K4** | Transistor, Field Effect |
| Q 402 | **2SC1623L6A** | Transistor, Si 300MH 0.15W |
| Q 403, 404 | **2SD601R** | Transistor |
| Q 501, 502, 503, 504 | **2SD601R** | Transistor |
| Q 701, 703, 704, 705, 706, 707, 710, 711, 712 | **2SD601R** | Transistor |
| Q 702 | **2SC2001K1** | Transistor |
| Q 708, 709 | **2SD1253P** | Transistor |

| Ref. No. | Part No. | Part Name & Description |
|---|---|---|
| **DIODES & RECTIFIERS** | | |
| D 1, 2, 3 | **RVD1SV103** | Diode |
| D 4, 5 | **MA56** | Diode |
| D 7, 9, 10, 16, 17, 18, 34, 35, 37, 50, 51, 74 | **MA165** | Diode, Si |
| D 8 | **RVDKB265G** | Diode |
| D 11, 39, 46 | **MA1056** | Diode |
| D 12, 13, 20, 21, 23, 25, 30, 31, 38, 40, 45 | **MA151WK** | Chip Diode |
| D 14, 15, 33, 36, 42 | **MA151WA** | Chip Diode |
| D 22, 27, 28, 29, 41 | **MA153** | Diode |
| D 32, 43 | **MA161** | Diode |
| D 44 | **MA1120** | Diode |
| D 47 | **MA1100** | Diode |
| D 49 | **RVDRD6R2EB** | Diode |
| D 301 | **MA153** | Diode |
| D 303, 304, 309, 501 | **MA165** | Diode, Si |
| D 305 | **RVDKB265G** | Diode |
| D 306, 307, 308 | **RVD1SV149** | Diode |
| D 401, 402, 403, 404, 406 | **MA165** | Diode, Si |
| D 405 | **MA151WA** | Chip Diode |
| D 502 | **MA1068M** | Diode |
| D 503 | **MA1082M** | Diode |
| D 601, 602 | **SM112** | Rectifier |
| D 701 | **MA1091M** | Diode |
| D 702, 705 | **MA151WK** | Chip Diode |
| D 703, 704 | **SM112** | Rectifier |
| **COILS** | | |
| L 1 | **RL04N135** | Coil, FM Antenna |
| L 2, 3 | **RLQZB2R2K** | Coil, Choke |
| L 4 | **RL04N170** | Coil, FM Antenna |
| L 5 | **RL04N98** | Coil, FM Antenna |
| L 6 | **RLQZB470K** | Coil, Choke |
| L 301, 304 | **RLA2A3** | Coil, AM Anttenna |
| L 302 | **RLQZB102K** | Coil Choke |
| L 303 | **RL02A8** | Coil, AM Oscillator |
| L 601, 602 | **RLT6D1A** | Coil |

| Ref. No. | Part No. | Part Name & Description |
|---|---|---|
| **TRANSFORMERS** | | |
| T 1 | **RLI4B554** | I.F. Transformer |
| T 2 | **RLI4A23** | IFT, FM |
| T 3 | **RLI4A24** | IFT, FM |
| T 301, 303 | **RLI2A16** | AM NB, IFT, FM |
| T 302 | **RLI2A17** | IFT, AM |
| **TRIMMER CONDENSERS** | | |
| CT 1, 2 | **RCVTZ20F** | Trimmer Capacitor |
| CT 3 | **RCVTZ11F** | Trimmer Capacitor |
| CT 301, 303 | **RCVTZ20F** | Trimmer Capacitor |
| CT 302 | **RCVCTZ51F** | Trimmer Capacitor |
| **VARIABLE RESISTORS** | | |
| VR 1 | **EVND4AA00B14** | Variable Resistor, Preset, 10kΩ (B) |
| VR 2 | **EVNM4AA00B14** | Variable Resistor, Preset, 10kΩ (B) |
| VR 3 | **EVURV3255B15** | Variable Resistor, Preset, 100kΩ (B) (include S1) |
| VR 4 | **EVURW3255B24** | Variable Resistor, Preset, 20kΩ (B) (include S2) |
| VR 5 | **EVU5KAP15D24** | Variable Resistor, Preset, 20kΩ (D) |
| VR 501, 502 | **RVNCC24B1** | Variable Resistor |
| **RESONATOR** | | |
| X 401 | **RVCA4500NZN** | Crystal |
| **CERAMIC FILTERS** | | |
| CF 1 | **RVFSFE107MSR** | Ceramic Filter |
| CF 2 | **RVFSFE107MAR** | Ceramic Filter |
| CF 301 | **RVFSFP450H** | Ceramic Filter |
| CF 302 | **RVFCFM2450Z** | Ceramic Filter |
| **PILOT LAMP** | | |
| PL 1 | **XANR13T33** | Neon Lamp |
| **SWITCHES** | | |
| S 3, 4, 5, 6, 7, 8, 9, 10 | **EVQQSQ04K** | Switch, PROGRAM, M/ME, BAND, AMB, SENS/DOLBY |
| S 701, 702 | **ESB643** | Switch, FF/REW |
| S 703 | **RSS2C02Z** | Switch, Tape |
| S 705 | **RFA36Z** | Switch, Muting |
| S 706 | **RFA37Z** | Switch, Head |

| Ref. No. | Part No. |
|---|---|
| **CAPACITORS** | |
| C 1, 2, 4, 8, 9, 10, 15 | **RCUX1H102MD** |
| C 3 | **RCUX1H270KC** |
| C 5, 11, 81, 83, 89, 107, 109, 119, 121, 124, 125, 134, 135 | **ECEA1CK100** |
| C 6, 16 | **RCUX1H150KC** |
| C 12, 13, 20, 25, 40, 68, 69, 88, 103, 105, 110, 115, 116, 164 | **RCUX1H103ZF** |
| C 14, 19 | **RCUX1H271K** |
| C 17 | **RCUX1H390KC** |
| C 18 | **RCUX1H180KC** |
| C 22, 46, 108, 114, 120, 130, 131 | **ECUX1E473MD** |
| C 23 | **ECUX1H101JR** |
| C 24 | **ECEA1AK470** |
| C 26, 52 | **RCUX1E333ZF** |
| C 27, 37, 38, 43, 59, 60, 61, 62, 63, 64, 75, 78, 79, 87, 143, 156 | **ECEA1HK010** |
| C 28 | **RCUX1H470KC** |
| C 29, 30, 35, 50, 55, 57, 82 | **ECUX1H223MD** |
| C 31, 76, 85, 86, 138, 139 | **ECEA1HK4R7** |
| C 32, 128, 129 | **ECEA1HKR33** |
| C 33, 42, 80 | **ECEA1CK470** |
| C 34, 44 | **RCUX1H101K** |
| C 36, 39, 142, 160 | **RCUX1E223ZF** |
| C 41, 102, 149 | **ECEA1AK220** |
| C 45 | **ECEA1CN100S** |
| C 47 | **RCUX1H332MD** |
| C 48, 141, 146, 154 | **ECUX1E104MD** |
| C 49, 140 | **ECEA1CU221** |
| C 51 | **ECQP2A102JZ** |
| C 53, 106, 147, 150 | **ECEA1HK2R2** |
| C 54, 65, 66, 71, 72, 73, 74 | **ECEA1HK3R3** |
| C 56, 58 | **ECSF1CE105** |
| C 67 | **ECEA0JK101** |
| C 77, 117 | **ECEA1CU101** |
| C 84 | **ECEA1AK330** |
| C 98, 99, 111, 126, 127 | **ECEA1HK0R1** |
| C 104 | **ECEA1AU101** |
| C 112 | **RCUX1H181K** |
| C 113 | **ECEA1HKR22** |
| C 118 | **RCUX1H560KC** |
| C 122, 145, 153 | **ECEA1AU221** |
| C 123 | **ECEA1AU471** |
| C 136, 137 | **ECUX1E333MD** |
| C 144 | **ECEA1CU471** |
| C 148, 152 | **RCUX1H472MD** |
| C 151, 155 | **ECSF1VE104** |
| C 161 | **ECEA0JK470** |
| C 301, 303, 305, 310, 311, 320, 324, 325, 336, 511, 512, 514 | **RCUX1E223ZF** |
| C 302 | **RCUX1H471KB** |
| C 304 | **RCUX1H101K** |
| C 306, 322, 504, 508, 515 | **ECEA1CK100** |
| C 307, 317, 334 | **ECUX1H153MD** |
| C 308, 327, 505 | **ECEA1CK470** |
| C 309, 323, 338, 340, 350 | **RCUX1E103MD** |
| C 312, 326, 519, 520 | **ECEA1EK4R7** |
| C 313 | **ECKD1H103ZF** |
| C 314 | **RCUX1H102MD** |
| C 315 | **RCUX1H103ZF** |
| C 316 | **RCUX1H220KC** |
| C 318 | **ECQP2A471JZ** |
| C 319 | **ECEA1HKR47** |
| C 321, 518 | **ECEA1AK220** |
| C 328 | **RCUX1E333ZF** |
| C 329, 516, 517 | **ECEA1HK010** |
| C 330 | **RCUX1H472MD** |
| C 332, 503, 507 | **RCUX1H682MD** |
| C 342 | **RCUX1H332MD** |
| C 344 | **ECUX1H223MD** |
| C 346 | **ECUX1E473MD** |
| C 348 | **ECEA1HK0R1** |
| C 401 | **RCUX1H102MD** |
| C 402 | **ECQV1H474JZ** |
| C 403, 404, 405, 413, 420 | **RCUX1H103ZF** |
| C 406 | **ECEA1HK0R1** |
| C 407, 408 | **RCUX1H220KC** |
| C 409 | **ECEA1CK100** |
| C 410, 411, 412 | **RCUX1H221K** |
| C 414 | **ECKD1H103ZF** |
| C 421 | **ECEA0JK221** |
| C 422 | **ECEA0JU102** |
| C 424 | **ECEA1HK010** |
| C 425 | **ECUX1E473MD** |
| C 426 | **ECCD1H820K** |
| C 501, 509 | **ECSF1CD224** |
| C 502, 506 | **ECEA0JK330** |
| C 510, 521 | **RCUX1H152MD** |
| C 513 | **ECEA1AU221** |
| C 601, 604, 605, 606, 608, 609, 610, 611, 612, 613, 614 | **ECUXAH102ZF** |
| C 602, 603 | **ECUX1E104MD** |
| C 607, 615 | **ECEA1CU471** |
| C 701 | **ECEA1HU010** |
| C 702 | **ECEA1AU470** |
| C 703 | **ECQV1H334JZ** |
| C 704, 705 | **ECEA1AK470** |
| C 706, 707 | **ECUX1E473MD** |
| C 708 | **ECUX1E104MD** |
| C 709 | **RCUX1H682MD** |
| C 710, 711 | **ECEA1CU330** |

| Ref. No. | Part No. |
|---|---|
| **RESISTORS** | |
| R 1, 2 | ERJ6GCJ681 |
| R 3, 14, 16, 51, 52, 82, 83, 91, 93, 97, 98, 121, 122, 127, 128, 129, 132, 134, 135, 137, 138, 139, 140, 141, 188 | ERJ6GCJ104 |
| R 4, 104, 120, 200 | ERJ6GCJ224 |
| R 5, 172, 173 | ERJ6GCJ274 |
| R 6, 15, 27, 35, 86, 87, 88, 89, 102, 103, 118, 124, 133, 153, 176, 177, 184 | ERJ6GCJ473 |
| R 7, 156 | ERJ6GCJ334 |
| R 8 | ERJ6GCJ181 |
| R 9, 10 | ERJ6GCJ470 |
| R 11, 18, 21, 32, 40, 99, 105 | ERJ6GCJ101 |
| R 12, 22, 26, 61, 62, 65, 66, 100, 101, 119, 157, 158, 187 | ERJ6GCJ102 |
| R 17, 28, 55, 76, 77, 145, 146, 195 | ERJ6GCJ103 |
| R 19, 23, 130, 131 | ERJ6GCJ331 |
| R 20, 142 | ERJ6GCJ471 |
| R 24, 43 | ERJ6GCJ822 |
| R 25 | ERJ6GCJ823 |
| R 29, 41, 69, 70, 123, 125, 178, 179 | ERJ6GCJ472 |
| R 30, 59, 60, 154, 164, 165, 174, 175, 181, 202 | ERJ6GCJ332 |
| R 31 | ERD25FJ103 |
| R 33, 75 | ERJ6GCJ821 |
| R 34, 44 | ERJ6GCJ123 |
| R 36, 39, 47, 48, 56, 67, 68, 73, 74, 80, 81, 84, 85, 92, 95, 106, 136 | ERJ6GCJ223 |
| R 37, 159, 189, 196 | ERJ6GCJ222 |
| R 38, 71, 72, 183 | ERJ6GCJ333 |
| R 42, 96, 152 | ERJ6GCJ153 |
| R 45, 46, 53, 54, 151 | ERJ6GCJ392 |
| R 49, 50, 94 | ERJ6GCJ563 |
| R 57, 58, 144, 203 | ERJ6GCJ105 |
| R 63, 64 | ERJ6GCJ154 |
| R 78, 79, 186 | ERJ6GCJ273 |
| R 147 | ERJ6GCJ151 |
| R 148 | ERJ6GCJ271 |
| R 149, 150 | ERJ6GCJ394 |
| R 155, 190 | ERJ6GCJ561 |
| R 166, 167 | ERJ6GCJ562 |
| R 168, 169 | ERJ6GCJ122 |
| R 170, 171 | ERJ6GCJ683 |
| R 182 | ERJ6GCJ682 |
| R 191, 192, 193, 194 | ERJ6GCJ272 |
| R 197, 198 | ERJ6GCJ221 |
| R 201 | ERJ6GCJ183 |
| R 206 | ERDS2TJ104 |
| R 301, 307, 309, 327, 505, 511 | ERJ6GCJ474 |
| R 302, 320, 321, 516, 518 | ERJ6GCJ332 |
| R 303 | ERDS2TJ332 |
| R 304 | ERJ6GCJ105 |
| R 305 | ERJ6GCJ270 |
| R 306 | ERJ6GCJ182 |
| R 308 | ERJ6GCJ330 |
| R 310, 330, 333 | ERJ6GCJ470 |
| R 311, 312, 314, 522 | ERJ6GCJ104 |
| R 313, 317, 319 | ERJ6GCJ103 |
| R 315 | ERJ6GCJ101 |
| R 316, 527, 528 | ERJ6GCJ473 |
| R 318 | ERJ6GCJ152 |
| R 322, 324, 326, 526, 529 | ERJ6GCJ222 |
| R 323, 328 | ERJ6GCJ153 |
| R 325 | ERJ6GCJ151 |
| R 332 | ERJ6GCJ683 |
| R 334 | ERJ6GCJ183 |
| R 401 | ERJ6GCJ682 |
| R 402 | ERJ6GCJ222 |
| R 403 | ERJ6GCJ472 |
| R 404, 414 | ERJ6GCJ473 |
| R 405, 406, 407, 408, 409, 410, 416 | ERJ6GCJ104 |
| R 412 | ERJ6GCJ331 |
| R 413 | ERJ6GCJ102 |
| R 415, 421 | ERJ6GCJ823 |
| R 417, 419 | ERJ6GCJ223 |
| R 418 | ERJ6GCJ333 |
| R 420 | ERJ6GCJ101 |
| R 422, 423, 425, 426 | ERJ6GCJ393 |
| R 424 | ERJ6GCJ683 |
| R 427 | ERJ6GCJ470 |
| R 428 | ERJ6GCJ681 |
| R 501, 513 | ERJ6GCJ274 |
| R 502, 509 | ERJ6GCJ224 |
| R 503, 508, 517 | ERJ6GCJ334 |
| R 504, 510 | ERJ6GCJ121 |
| R 506, 512, 520, 519 | ERJ6GCJ223 |
| R 507 | ERDS2TJ101 |
| R 514, 515, 521 | ERJ6GCJ272 |
| R 523 | ERJ6GCJ333 |
| R 524 | ERJ6GCJ331 |
| R 525 | ERJ6GCJ681 |
| R 530 | ERJ6GCJ561 |
| R 702, 712, 714 | ERJ6GCJ224 |
| R 703, 720, 722 | ERJ6GCJ222 |
| R 704 | ERJ6GCJ333 |
| R 705, 713 | ERJ6GCJ104 |
| R 706 | ERJ6GCJ471 |
| R 707, 710 | ERJ6GCJ472 |
| R 708, 709 | ERJ6GCJ473 |
| R 711 | ERJ6GCJ223 |
| R 715 | ERJ6GCJ122 |
| R 716, 718 | ERJ6GCJ103 |
| R 717 | RRD18XJ103 |
| R 719 | RRD18XJ122 |
| R 721, 724 | ERJ6GCJ102 |
| R 723, 725 | RRD18XJ102 |
| **CHIP JUMPER** | |
| RJ 1, 2, 3, 4, 5 | RRD18XK000 |
| RJ 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23 | ERJ6GCJ000 |
| RJ 301, 302, 303, 304, 305, 306, 307, 503, 504 | ERJ6GCJ000 |
| RJ 401, 402 | ERJ6GCJ000 |
| RJ 501, 502, 601 | RRD18XK000 |
| RJ 701, 702, 703, 704, 705, 706, 707, 708, 709, 712 | ERJ6GCJ000 |
| RJ 707, 710, 711 | RRD18XK000 |

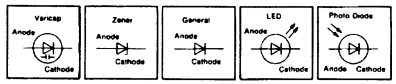
## ■ PARTS NO. FUNCTION NAME AND ZONE NO. SCHEMATIC DIAGRAM (MAIN CIRCUIT)

| Ref. No. | Zone | Part No. | Function Name | Ref. No. | Zone | Part No. | Function Name |
|---|---|---|---|---|---|---|---|
| IC1 | A · 4 | LA1170 | FM MIX & OSC | Q1 | A · 2 | 3SK114Y | FM RF AMP |
| IC2 | B · 6 | RVILA1140 | FM IF & DET | Q2 | C · 2 | 2SD601R | SWITCHING |
| IC3 | A · 8 | RVISTK2110D | FM NOISE BRANKER | Q4 | B · 12 | 2SD601R | SWITCHING |
| IC4 | B · 10 | RVILA3375 | FM STEREO MPX | Q5 | C · 12 | 2SD601R | SWITCHING |
| IC5 | D · 4 | RVITC4011BP | PRE SCALOR | Q6 | A · 13 | 2SD601S | PRE AMP |
| IC6 | F · 4 | RVITA78L006P | REGULATOR | Q7 | B · 13 | 2SD601S | PRE AMP |
| IC7 | D · 5 | RVIM51203L | MUTE CONTROLLER | Q8 | A · 13 | 2SD601Q | BUFFER AMP |
| IC8 | E · 5 | RVIUPC1228H | DUAL OPERATIONAL AMP | Q9 | B · 13 | 2SD601Q | BUFFER AMP |
| IC9 | C · 9 | RVIBA6133 | DUAL POWER AMP | Q10 | B · 14 | 2SD601R | SWITCHING |
| IC10 | E · 8 | RVILM1131C | AMBIENCE | Q11 | C · 14 | 2SD601R | SWITCHING |
| IC11 | E · 13 | RVITA7230P | DOLBY NR | Q12 | D · 14 | 2SD601R | SWITCHING |

| Ref. No. | Zone | Part No. | Function Name | Ref. No. | Zone | Part No. | Function Name |
|---|---|---|---|---|---|---|---|
| Q13 | D · 14 | 2SD601R | SWITCHING | D12 | D · 13 | MA151WK | SWITCHING |
| Q14 | D · 11 | 2SB709R (2SB709) | SWITCHING | D13 | D · 13 | MA151WK | SWITCHING |
| Q15 | D · 11 | 2SD601R | SWITCHING | D14 | D · 12 | MA151WA | SWITCHING |
| Q16 | D · 11 | 2SD601R | SWITCHING | D15 | D · 12 | MA151WA | SWITCHING |
| Q17 | D · 11 | 2SB709R (2SB709) | SWITCHING | D16 | E · 12 | MA165 | SWITCHING |
| Q18 | D · 9 | 2SK160K5 | SWITCHING | D17 | C · 11 | MA165 | SWITCHING |
| Q19 | C · 7 | 2SD601R | SWITCHING | D18 | C · 8 | MA165 | SWITCHING |
| Q23 | D · 5 | 2SD601R | SWITCHING | D20 | D · 4 | MA151WK | SWITCHING |
| Q26 | E · 2 | 2SB709R (2SB709) | SWITCHING | D21 | D · 2 | MA151WK | SWITCHING |
| Q27 | F · 2 | 2SB709R (2SB709) | SWITCHING | D22 | F · 1 | MA153 | SWITCHING |
| Q28 | F · 2 | 2SB709R (2SB709) | SWITCHING | D23 | G · 1 | MA151WK | SWITCHING |
| Q29 | F · 2 | 2SB709R (2SB709) | SWITCHING | D24 | G · 1 | MA165 | SWITCHING |
| Q30 | F · 2 | 2SB709R (2SB709) | SWITCHING | D25 | G · 1 | MA151WK | SWITCHING |
| Q31 | G · 2 | 2SB709R (2SB709) | SWITCHING | D27 | G · 2 | MA153 | SWITCHING |
| Q32 | G · 2 | 2SB709R (2SB709) | SWITCHING | D28 | G · 2 | MA153 | SWITCHING |
| Q33 | G · 2 | 2SB709R (2SB709) | SWITCHING | D29 | G · 2 | MA153 | SWITCHING |
| Q34 | G · 3 | 2SD601R | SWITCHING | D30 | F · 2 | MA151WK | SWITCHING |
| Q36 | E · 7 | 2SD601R | SWITCHING | D31 | F · 2 | MA151WK | SWITCHING |
| Q37 | G · 9 | 2SD601R | SWITCHING | D32 | E · 3 | MA161 | SWITCHING |
| Q38 | F · 10 | 2SA684-RNC | SWITCHING | D33 | F · 3 | MA151WA | SWITCHING |
| Q40 | F · 10 | 2SA952K2 | SWITCHING | D34 | F · 4 | MA165 | SWITCHING |
| Q41 | G · 10 | 2SD601R | SWITCHING | D35 | F · 4 | MA165 | SWITCHING |
| Q42 | F · 10 | 2SC1383Q | REGULATOR | D36 | F · 5 | MA151WA | SWITCHING |
| Q43 | F · 12 | 2SA684-RNC | SWITCHING | D37 | E · 6 | MA165 | SWITCHING |
| Q44 | F · 12 | 2SD601R | SWITCHING | D38 | E · 6 | MA151WK | SWITCHING |
| Q45 | B · 3 | 2SC2404C | OSC BUFFER | D39 | E · 6 | MA1056 | REGULATOR |
| Q46 | D · 3 | 2SC1684R | SWITCHING | D40 | F · 11 | MA151WK | SWITCHING |
| D1 | B · 2 | RVD1SV103 | FM TUNING | D41 | F · 6 | MA153 | SWITCHING |
| D2 | B · 3 | RVD1SV103 | FM TUNING | D42 | F · 7 | MA151WA | SWITCHING |
| D3 | C · 4 | RVD1SV103 | FM TUNING | D43 | G · 7 | MA161 | SWITCHING |
| D4 | B · 2 | MA56 | SWITCHING | D44 | F · 10 | MA1120 | REGULATOR |
| D5 | B · 2 | MA56 | SWITCHING | D45 | E · 4 | MA151WK | SWITCHING |
| D6 | C · 5 | MA1082M | REGULATOR | D46 | F · 4 | MA1056 | SWITCHING |
| D7 | A · 6 | MA165 | SWITCHING | D47 | F · 5 | MA1100 | SWITCHING |
| D8 | B · 8 | RVDKB265G | SWITCHING | D49 | H · 6 | RVDRD6R2EB | REGULATOR |
| D9 | B · 8 | MA165 | SWITCHING | D50 | G · 1 | MA165 | SWITCHING |
| D10 | C · 10 | MA165 | SWITCHING | D51 | F · 6 | MA165 | SWITCHING |
| D11 | A · 14 | MA1056 | REGULATOR | D74 | | MA165 | |

( ) ····· Supply Parts Number.

# SCHEMATIC DIAGRAM (MAIN)

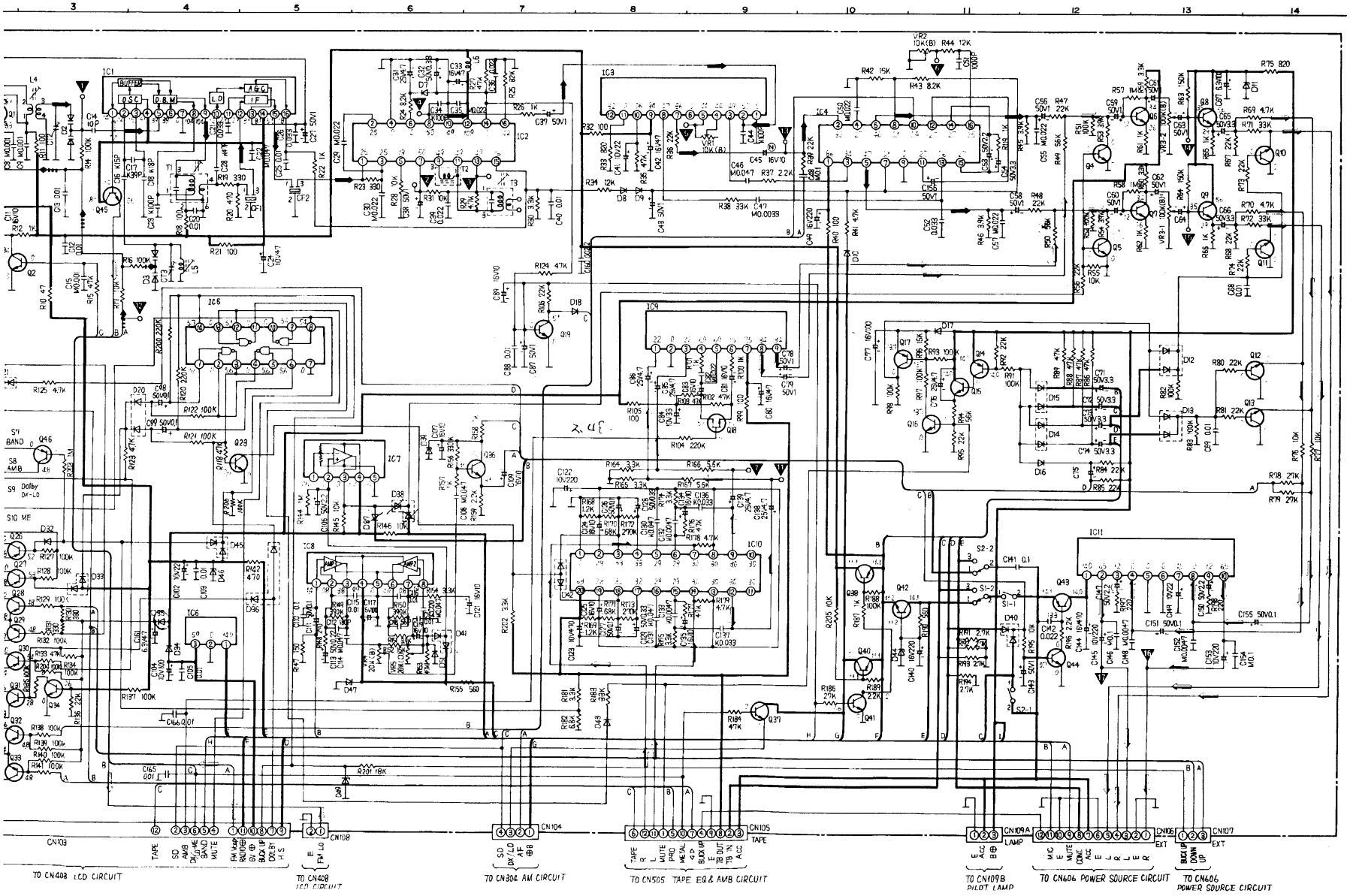



**Notes:**

1. S1-1: Power switch in "OFF" position.
2. S1-2: Radio/Tape switch in "RADIO" position. (1...RADIO, 3...TAPE)
3. S2-1: Intercom switch "OFF" position.
4. S2-2: Speaker/Headset switch in "Headset" position. (1...Headset, 3...Speaker)
5. S3: Preset ch 1/program switch.
6. S4: Preset ch 2 switch.
7. S5: Preset ch 3 switch.
8. S6: Preset ch 4 switch.
9. S7: Band switch in "FM" position.
10. S8: Ambience switch in "OFF" position.
11. S9: Dolby/Sensitivity switch.
12. S10: Memory/Metal switch.
13. DC Voltage measurements are taken with electronic voltmeter from negative voltage line.
    • FM position.
14. VR1: Separation adjustment VR.
    VR2: Pilot VCO adjustment VR.
    VR3: Volume control VR.
    VR4: Intercom control VR.
    VR5: Muting level control VR.

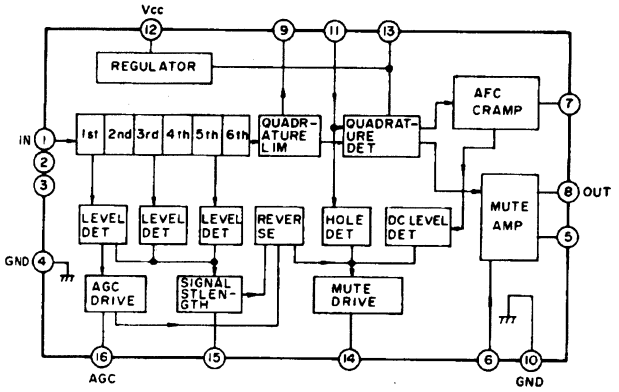
FM Signal
FM Vcap Control Signal
FM OSC Signal
AM Vcap Control Signal
AM OSC Signal
Tape & AF Signal
+ Voltage Line

# SCHEMATIC DIAGRAM (MAIN)

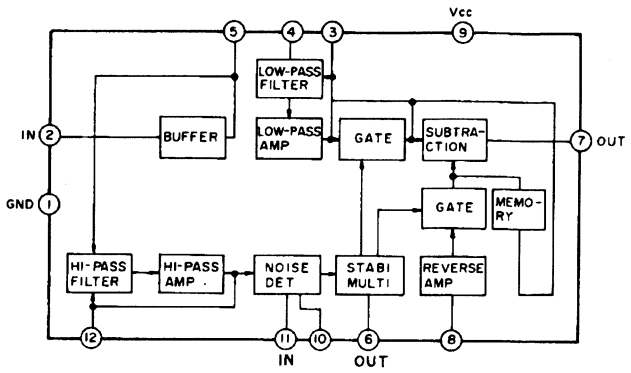


## ■ IC BLOCK DIAGRAM

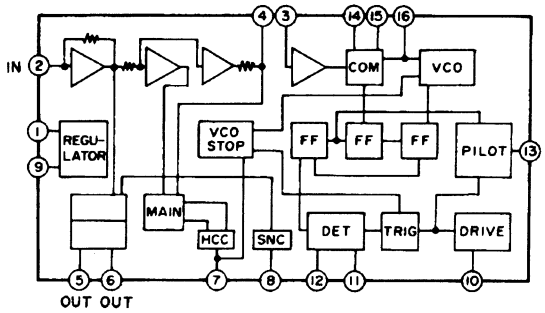
### IC2 RVILA1140



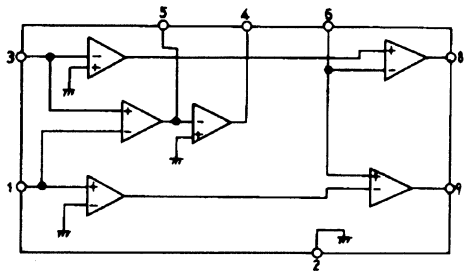

### IC3 RVISTK2110D



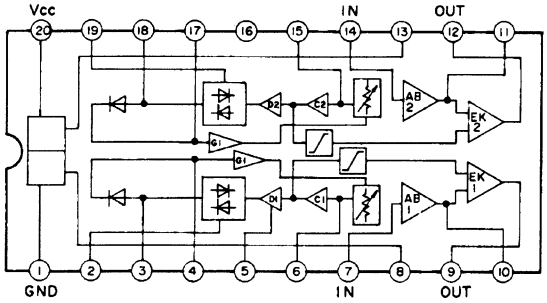

### IC4 RVILA3375



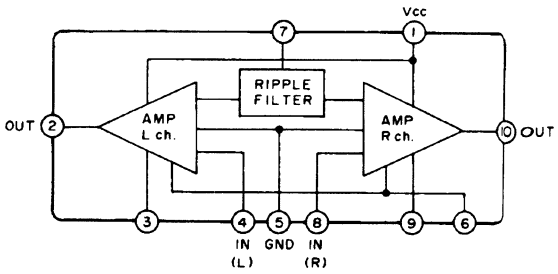

### IC9 RVIBA6133



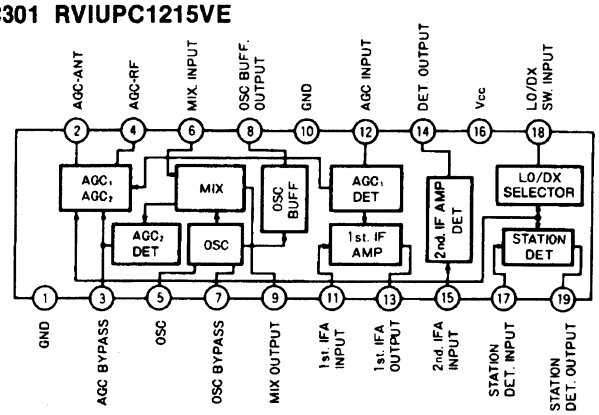
### IC10 RVILM1131C



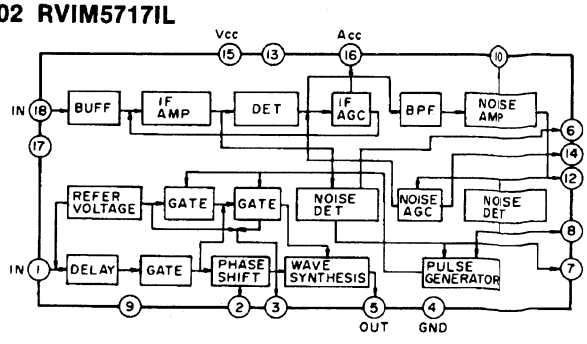

### IC11 RVITA7230P



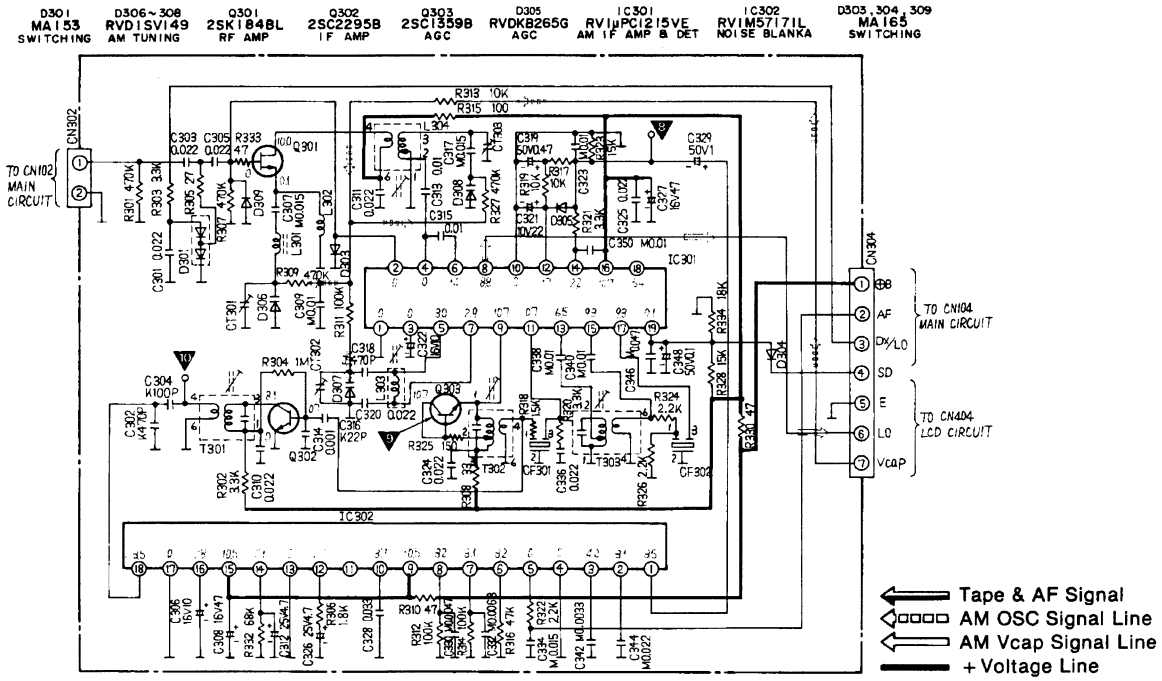

### IC301 RVIUPC1215VE




### IC302 RVIM5717IL

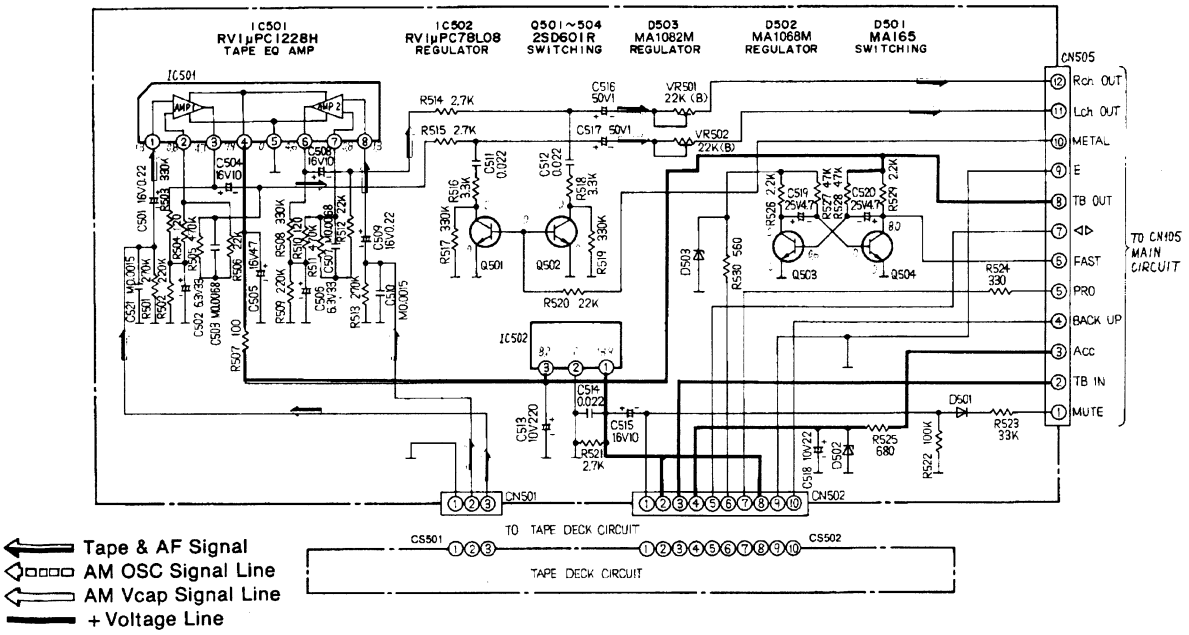


# SCHEMATIC DIAGRAM (AM)




**Note:**
DC voltage measurements are taken with electronic voltmeter from negative voltage line.
• AM position.

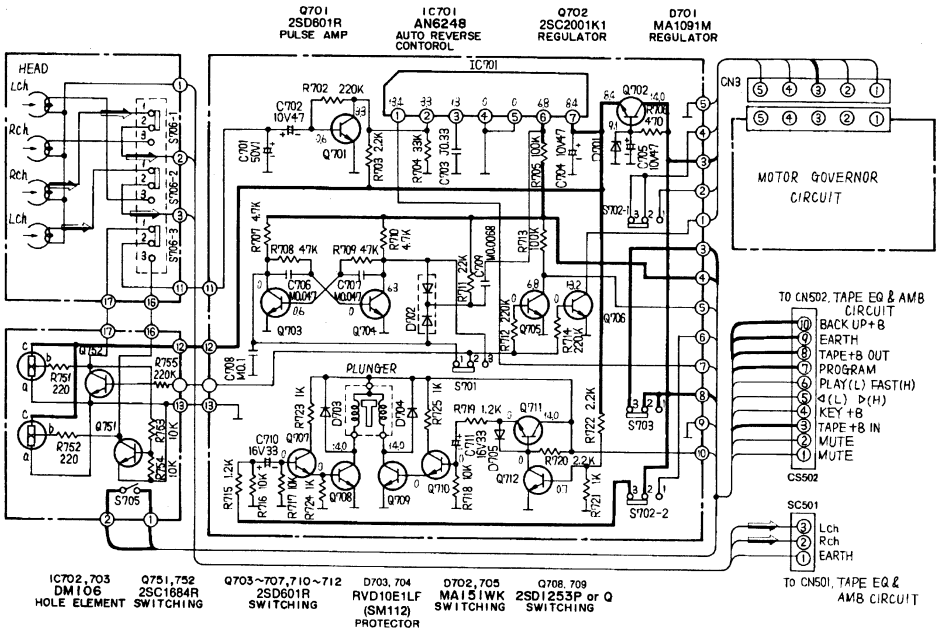
# SCHEMATIC DIAGRAM (TAPE EQ & AMBIENCE)




**Note:**
DC voltage measurements are taken with electronic voltmeter from negative voltage line.
• AM position.

VR501: Dolby level (R) adjustment VR.
VR502: Dolby level (L) adjustment VR.

# SCHEMATIC DIAGRAM (TAPE DECK)

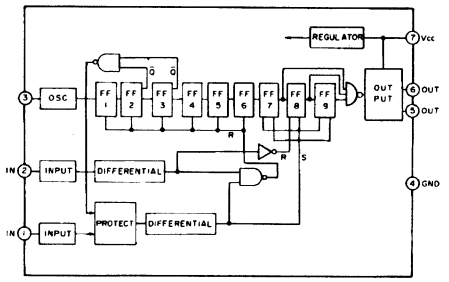



**Notes:**

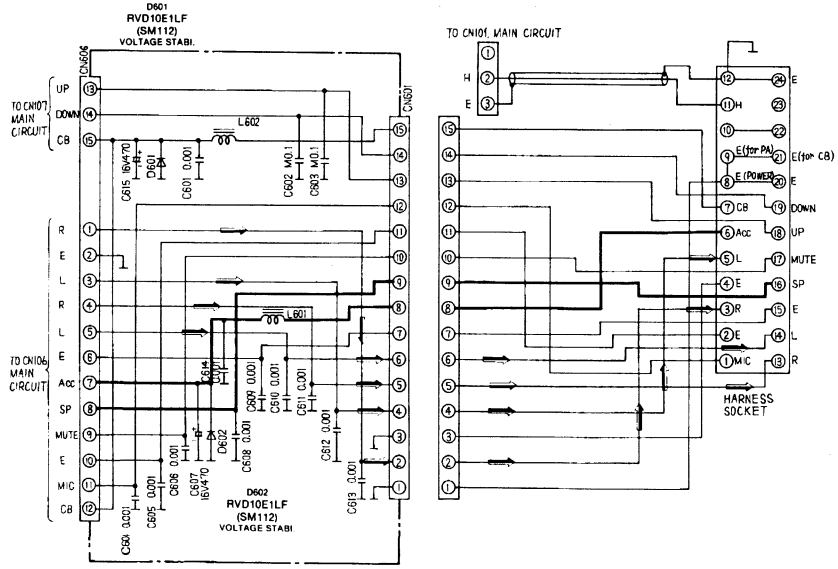
1. S701: Forward/Reverse switch in "Forward" position. (1...Forward, 3...Reverse)
2. S702-1: Motor speed switch in "FAST" position. (1...FAST, 3...PLAY)
3. S702-2: Plunger switch in "ON" position. (1...ON, 3...OFF)
4. S703: Tape switch in "ON" position. (1...OFF, 3...ON)
4. S705: Mute switch.
5. S706-1, S706-2: Head switch.
6. S706-3: Hole Element switch.
7. DC voltage measurements are taken with electronic voltmeter from negative voltage line.
   • Tape position.

⟸ Tape & AF Signal
—— + Voltage Line

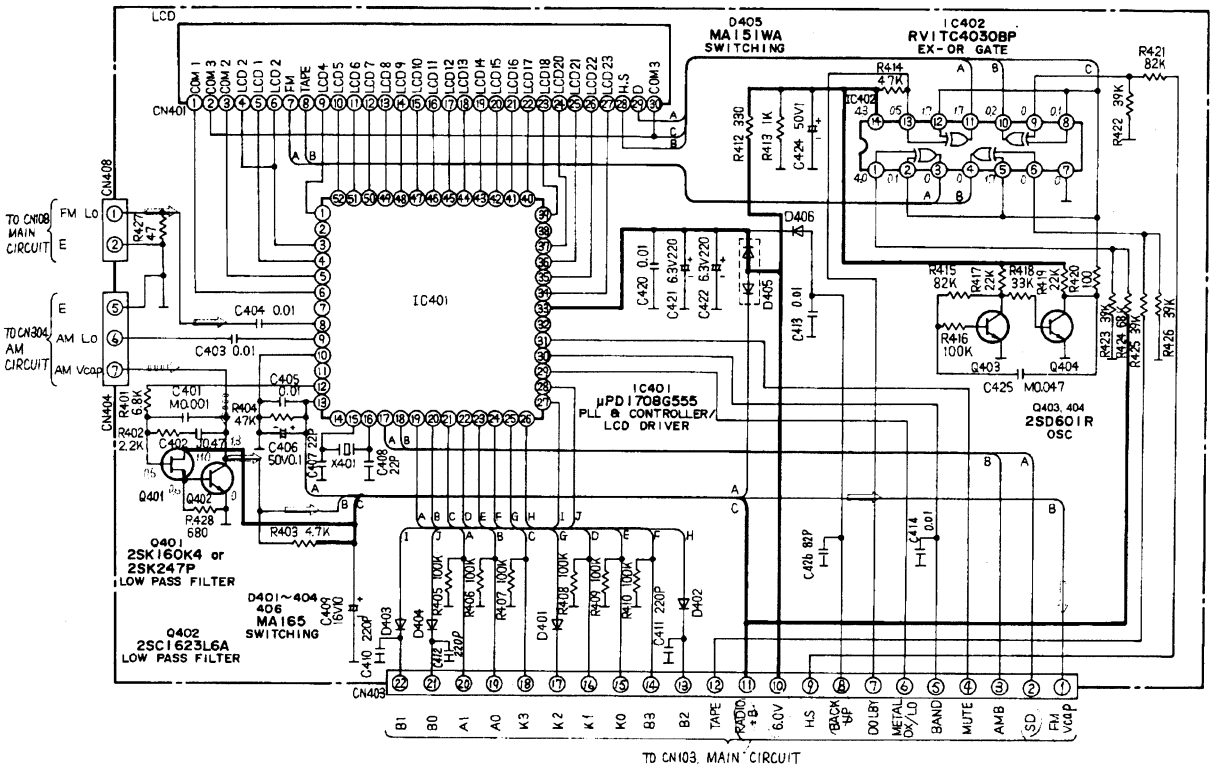
IC701 AN6248




# SCHEMATIC DIAGRAM (POWER SOURCE)

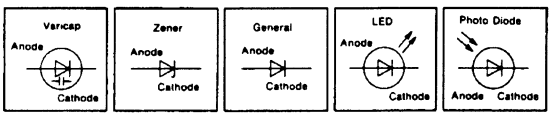


# SCHEMATIC DIAGRAM (LCD)

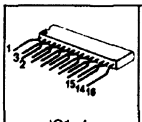
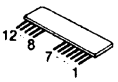
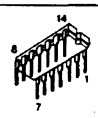
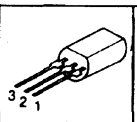
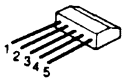
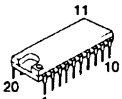
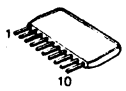
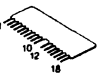
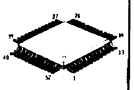
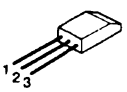
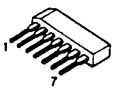
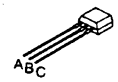
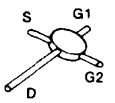
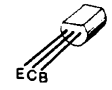
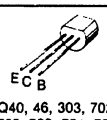
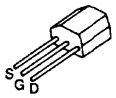
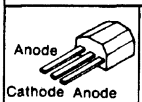
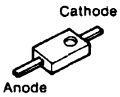
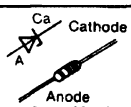
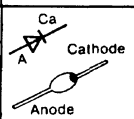
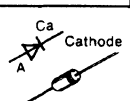
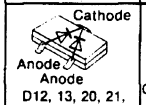
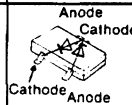
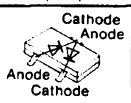
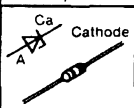
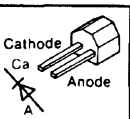
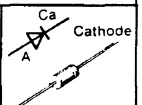



**Note:**
DC voltage measurements are taken with electronics voltmeter from negative voltage line.
• FM/Local/Headset position.

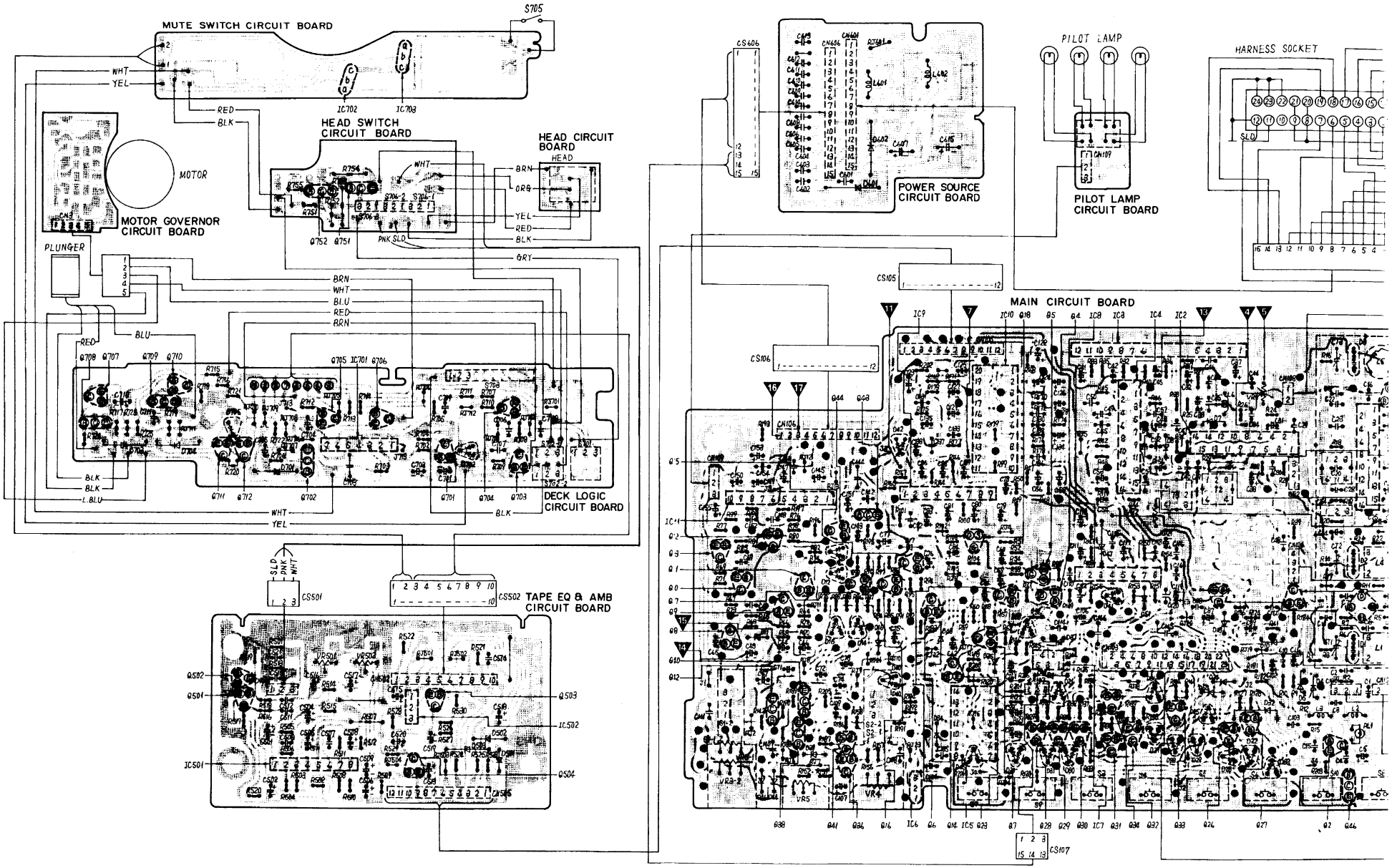
FM OSC Signal
AM Vcap Control Signal
AM OSC Signal
+ Voltage Line



# TERMINATIONS

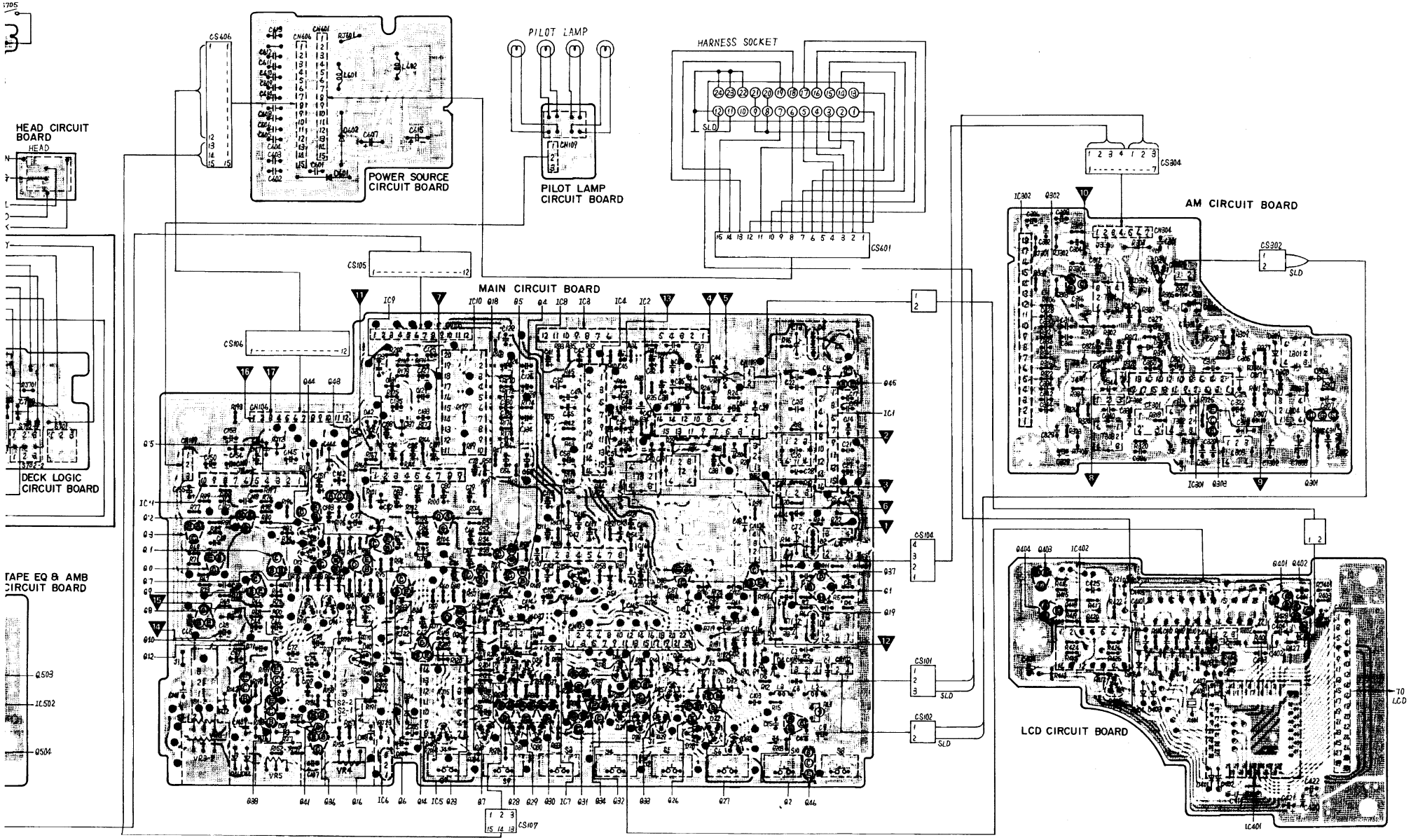
| | | | | | |
|---|---|---|---|---|---|
|  IC1, 4 |  IC2 |  IC3 |  IC51, 402 |  IC6 |  IC7 |
|  IC8, 501 |  IC9 |  IC10 |  IC11 |  IC301 |  IC302 |
|  IC401 |  IC502 |  IC701 |  IC702, 703 |  Q1 | |
|  Q2, 4~17.19, 23, 26~34, 36, 37, 41, 44, 45, 302, 402~404, 501~504, 701, 703~707, 710~712 | |  Q18, 401 |  Q38, 42, 43 |  Q40, 46, 303, 702, 708, 709, 751, 752 |  Q301 |
|  D1~3 |  D4, 5 |  D6, 11, 39, 46, 502, 503, 701 |  D8, 305 |  D7, 9, 10, 16~18, 24, 32, 34, 35, 37, 43, 49, 50, 51, 74, 303, 304, 309, 401~404, 406, 501 | |
|  D12, 13, 20, 21, 23, 25, 30, 31, 38, 40, 45, 702, 705 |  D14, 15, 33, 36, 42, 405 |  D22, 27, 28, 29, 41, 301 |  D44, 47 |  D306~308 |  D601, 602 |

# CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM



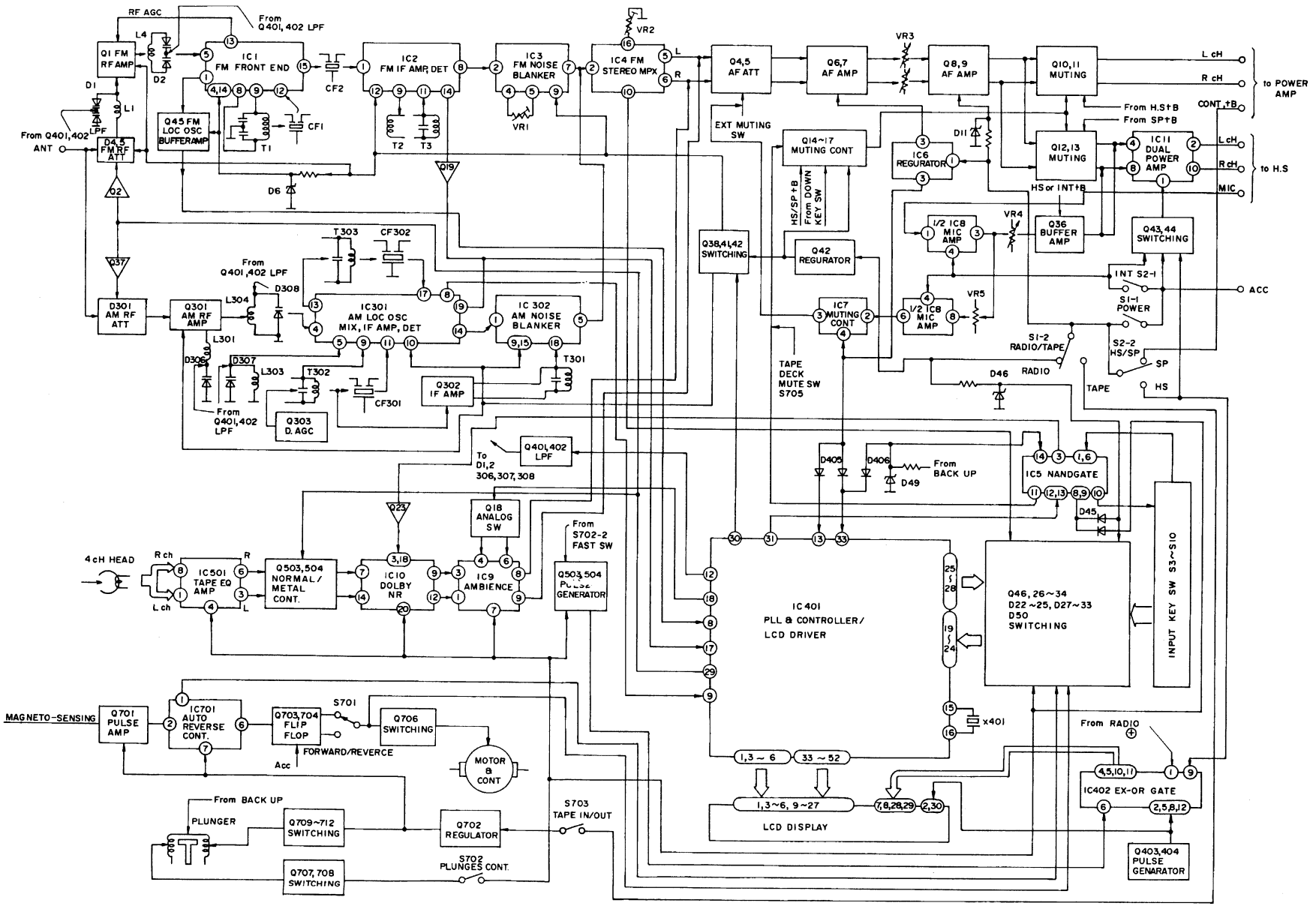
RM-1300A/RM-1400A

# CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM

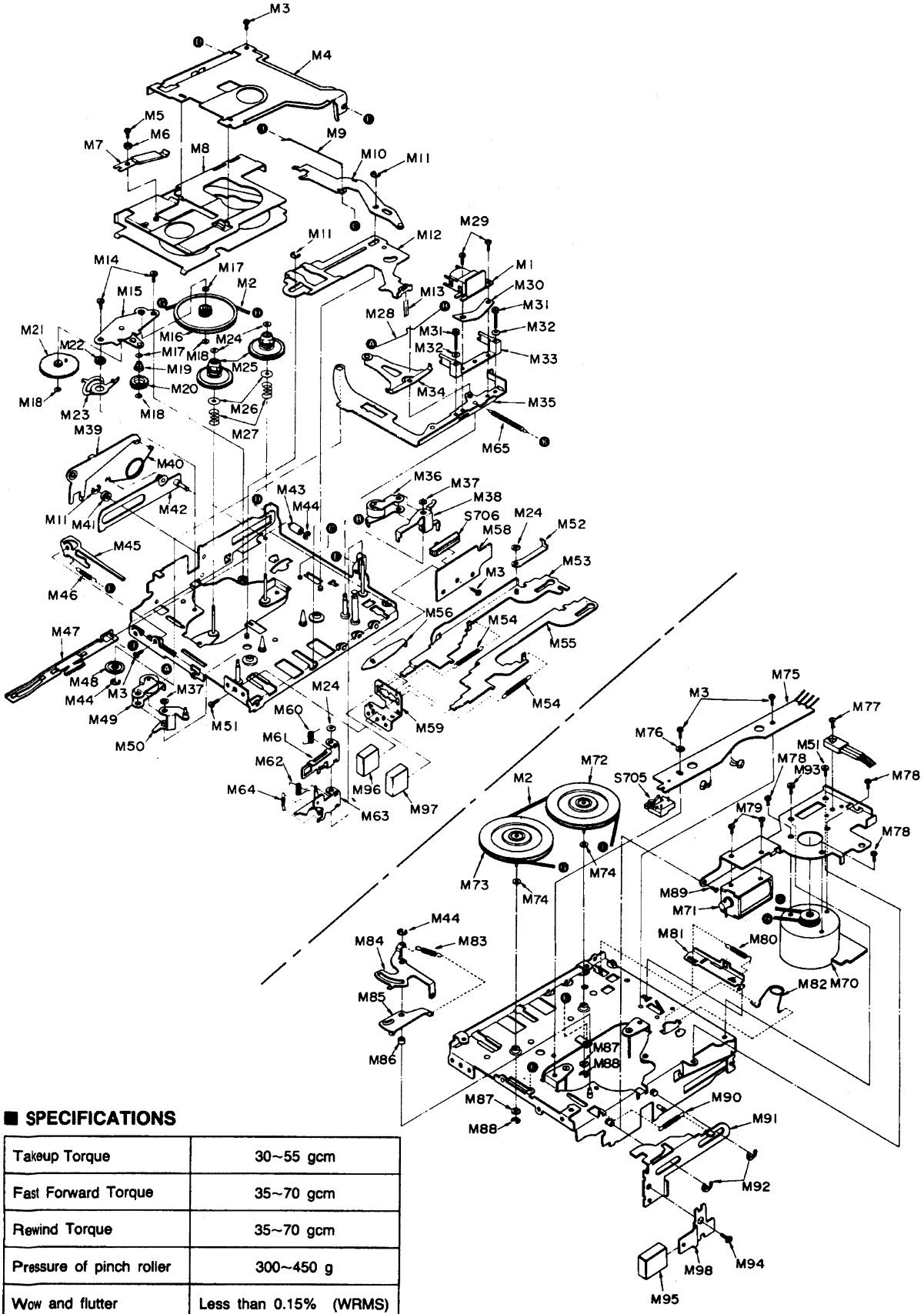


RM-1300A/RM-1400A

# BLOCK DIAGRAM



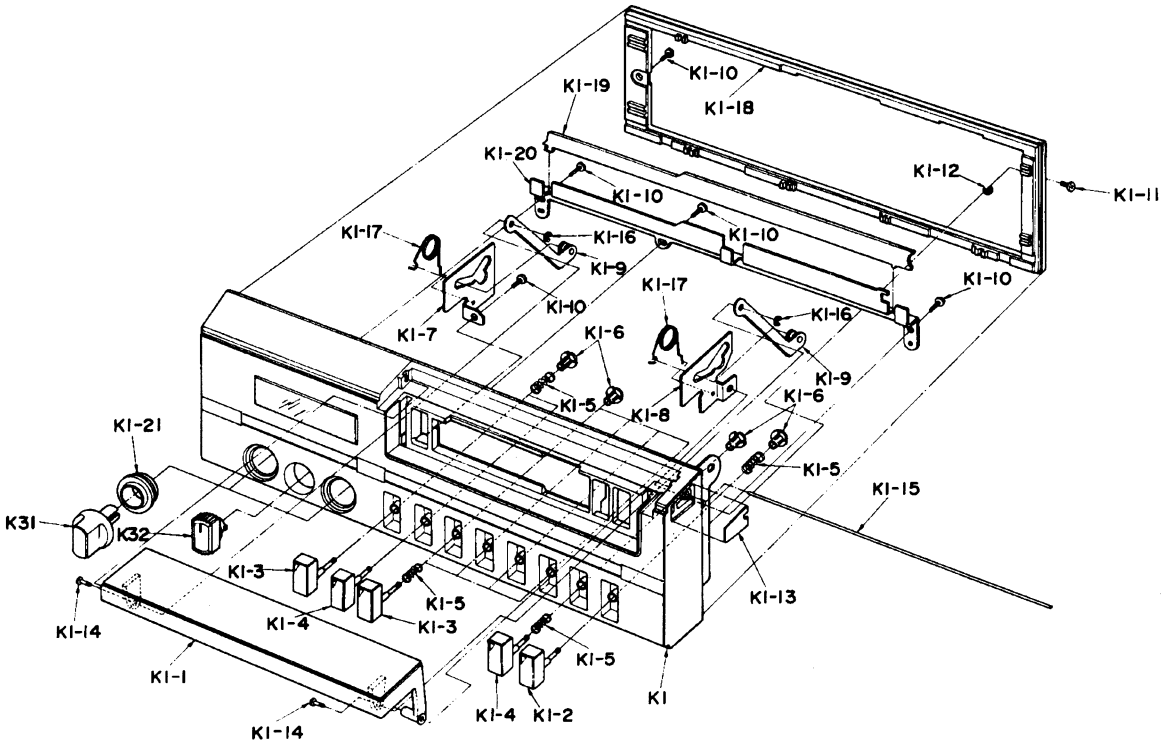
# MECHANISM PARTS LOCATION

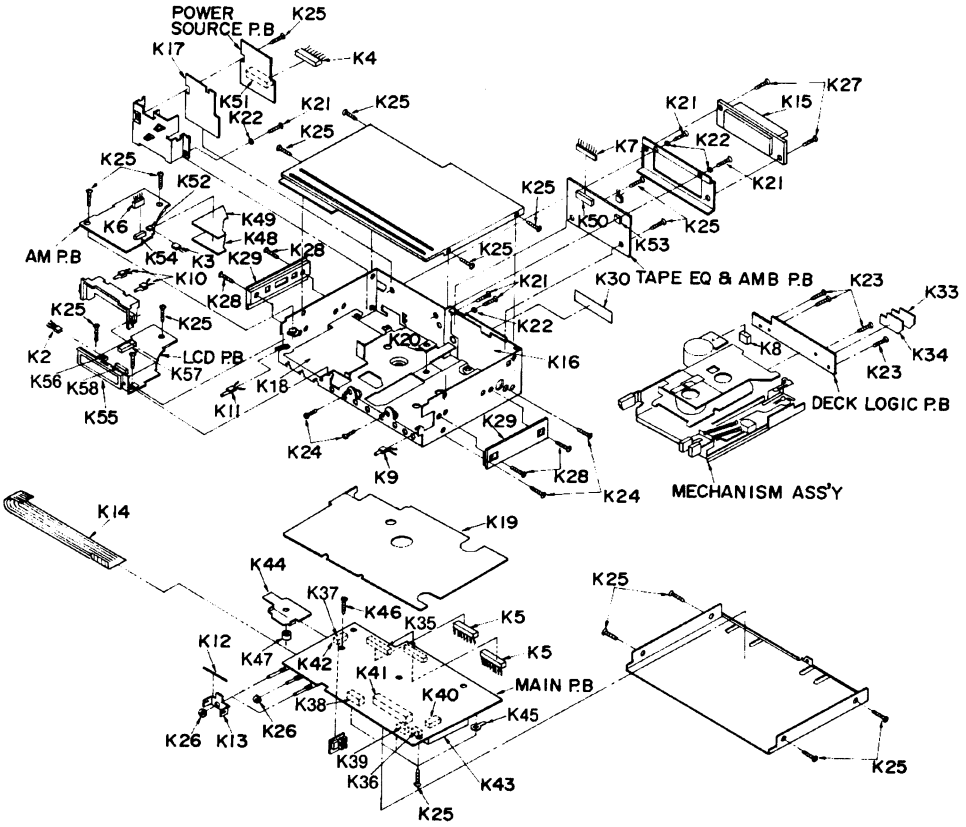



## ■ SPECIFICATIONS

| | |
|---|---|
| Takeup Torque | 30~55 gcm |
| Fast Forward Torque | 35~70 gcm |
| Rewind Torque | 35~70 gcm |
| Pressure of pinch roller | 300~450 g |
| Wow and flutter | Less than 0.15% (WRMS) |

# CABINET PARTS LOCATION



## REPLACEMENT PARTS LIST

### MECHANICAL PARTS

| Ref. No. | Part No. | Part Name & Description |
|---|---|---|
| M 1 | RFH6Z | Playback Head Ass'y |
| M 2 | RFB30Z | Main Belt |
| M 3 | RFE109Z | Screw, Case Lifter etc. M'tg |
| M 4 | RFD153Z | Case Lifter |
| M 5 | RFE90Z | Screw, Pack Presure Spring M'tg |
| M 6 | RFX77Z | Spacer, Pack Presure Spring |
| M 7 | RFS306Z | Spring, Pack Presure |
| M 8 | RFD152Z | Cassette Case B |
| M 9 | RFS298Z | Tension Spring |
| M 10 | RFY239Z | Change Lever |
| M 11 | XUC2FT | E Ring, Main Plate, etc. M'tg |
| M 12 | RFU19Z | Main Plate |
| M 13 | RFS296Z | Spring, Switch Operation Plate |
| M 14 | RFE110Z | Screw, Gear Plate A M'tg |
| M 15 | RFD150Z | Gear Plate A |
| M 16 | RFG40Z | Main Gear |
| M 17 | RFN87Z | Nylon Washer, FF/REW Gear |
| M 18 | SMQ4930 | Washer |
| M 19 | RFS299Z | Spring, FF/REW Gear |
| M 20 | RFG42Z | FF/REW Gear |
| M 21 | RFG41Z | Reverse Gear |
| M 22 | RFX74Z | Spacer, Gear Plate |
| M 23 | RFY241Z | Reed Plate |
| M 24 | SMQ4928 | Washer, Reel Table |
| M 25 | RFJ26Z | Reel Table |
| M 26 | RFN86Z | Nylon Washer, Reel Table |
| M 27 | RFS309Z | Spring, Reel Table |
| M 28 | RFS295Z | Spring, Pinch Roller Arm Ass'y |
| M 29 | XSN2+4 | Screw, Playback Head M'tg |
| M 30 | RFS293Z | Plate Spring, Playback Head |
| M 31 | XYN2+11F | Screw, Tape Guide M'tg |
| M 32 | RFN89Z | Washer, Tape Guide M'tg |
| M 33 | RFE107Z | Tape Guide |
| M 34 | RFY237Z | Pinch Roller Operation Plate Ass'y |
| M 35 | RFU18Z | Head Plate Ass'y |
| M 36 | RFR12Z | Pinch Roller Arm (Right) |
| M 37 | RFN51Z | Washer |
| M 38 | RFY242Z | Switch Lever Arm |
| M 39 | RFY253Z | Lift Up Lever |
| M 40 | RFS307Z | Reverse Spring, Eject |
| M 41 | RFX75Z | Spacer, Push Plate |
| M 42 | RFY250Z | Push Plate |
| M 43 | RFX76Z | Spacer, Push Plate |
| M 44 | XUC15FT | E Ring, Push Plate Spacer |
| M 45 | RFY238Z | Timing Plate |
| M 46 | RFS294Z | Spring, Timing Plate |
| M 47 | RFY240Z | Rack Plate |
| M 48 | RFQ22Z | Head Base Plate Roller |
| M 49 | RFR13Z | Pinch Roller Arm (Left) |
| M 50 | RFY243Z | Pull Plate |
| M 51 | RFE111Z | Screw, Lever Bracket, etc. M'tg |
| M 52 | RFY249Z | Lock Sensor Push Plate |
| M 53 | RFY245Z | Rewind Lever |
| M 54 | RFS300Z | Spring, Rewind, FF Lever |
| M 55 | RFY244Z | FF Lever |
| M 56 | RFY246Z | Non-Lock Plate |
| M 58 | RFT7Z | Circuit Board |
| M 59 | RFD151Z | Bracket, Lever |
| M 60 | RFS303Z | Spring, Lock Plate |
| M 61 | RFY248Z | FF/REW Rock Plate |
| M 62 | RFS302Z | Spring, Lock Release Plate |
| M 63 | RFY247Z | Lock Release Plate |
| M 64 | RFS301Z | Spring, Lock Release Plate |
| M 65 | RFS346Z | Spring, Head Panel Ass'y |
| M 70 | MMX4H2WDA | Motor Ass'y |
| M 71 | RSE99Z | Key Off Plunger |
| M 72 | RFF19Z | Flywheel Ass'y |
| M 73 | RFF18Z | Flywheel Ass'y |
| M 74 | RFN85Z | Nylon Washer, Flywheel Ass'y |
| M 75 | RFT6Z | Circuit Board |
| M 76 | RFN72Z | Washer, Circuit Board |
| M 77 | RFE112Z | Screw, Transistor M'tg |
| M 78 | RFE113Z | Screw, Motor Ass'y M'tg |
| M 79 | RFE91Z | Screw, Key Off Plunger M'tg |
| M 80 | RFS305Z | Spring, Switch Lever Arm |
| M 81 | RFY252Z | Switch Lever Arm |
| M 82 | RFS297Z | Reverse Spring, Change Plate |
| M 83 | RFS308Z | Spring, Key Off Plate B |
| M 84 | RFY255Z | Key Off Plate B |
| M 85 | RFY254Z | Key Off Plate A |
| M 86 | RFX78Z | Spacer, Key Off |
| M 87 | RFN88Z | Nylon Washer, Flywheel Ass'y |
| M 88 | RFE114Z | E Ring, Flywheel Ass'y M'tg |
| M 89 | RFE108Z | Screw, Motor Bracket M'tg |
| M 90 | RFS304Z | Spring, Eject Lever |
| M 91 | RFY251Z | Lever, Eject |
| M 92 | XUC3FT | E Ring, Eject Lever M'tg |
| M 93 | XTN26+4H | Screw, Motor Bracket M'tg |
| M 94 | XYN26+J5 | Screw, Lever M'tg |
| M 95 | RBC483Y | Button, Eject |
| M 96 | RBC482Y | Button, REW |
| M 97 | RBC482Z | Button, FF |
| M 98 | RUB284Z | Lever, Eject |

### CABINET PARTS

| Ref. No. | Part No. | Part Name & Description |
|---|---|---|
| K 1 | RYPM1300AJHD | Front Panel Ass'y (For RM-1300A) |
| K 1 | RYPM1400AJHD | Front Panel Ass'y (For RM-1400A) |
| K 1-1 | RYQM1300AJHD | Cassette Cover Ass'y |
| K 1-2 | RBC481Z | Button, AMB (For RM-1300A) |
| K 1-2 | RBC638Z | Button, AMB (For RM-1400A) |
| K 1-3 | RBC481Z1 | Button, Preset, Band (For RM-1300A) |
| K 1-3 | RBC638Z1 | Button, Preset, Band (For RM-1400A) |
| K 1-4 | RBC481Z2 | Button, M/ME, Dolby, SENS (For RM-1300A) |
| K 1-4 | RBC638Z2 | Button, M/ME, Dolby, SENS (For RM-1400A) |
| K 1-5 | RDS3094Z | Spring, Preset Button |
| K 1-6 | RHR475Z | Stopper, Button |
| K 1-7 | RUL697Z | Bracket, Cassette Cover, Left |
| K 1-8 | RUL698Z | Bracket, Cassette Cover, Right |
| K 1-9 | RUL9004Z | Lever, Cassette Cover |
| K 1-10 | XTN26+8B | Tapping Screw |
| K 1-11 | XSN3+6S | Screw, Cassette Cover Bracket |
| K 1-12 | XWA3B | Washer |
| K 1-13 | RGX1367Z | Ornament |
| K 1-14 | RHM164Z | Shaft, Cassette Cover |
| K 1-15 | RDF828Z | Shaft, Cassette Cover |
| K 1-16 | XUC12F | Stop Ring |
| K 1-17 | RUS515Z | Spring, Cassette Cover |
| K 1-18 | RHG9000Z | Rubber, Front Panel |
| K 1-19 | RGE74Z | Panel, Indicator |
| K 1-20 | RUH5YA | Angle, Indicator |
| K 1-21 | RHG3001Z | Rubber, Knob |
| K 2 | RWN1M1300AJH | Socket Ass'y, CN 108, 408 |
| K 3 | RWN2M1300AJM | Socket Ass'y, CN 102, 302 |
| K 4 | RWN3M1300AJH | Socket Ass'y, CN 106, 107, 606 |
| K 5 | RWN4M1300AJH | Socket Ass'y, CN 105, 505 |
| K 6 | RWN5M1300AJH | Socket Ass'y, CN 104, 304, 404 |
| K 7 | RWN6M1300AJH | Socket Ass'y, CN 502 |
| K 8 | RWN7M1300AJH | Socket Ass'y (Tape, Motor) |
| K 9 | RWN8M1300AJH | Socket/Lamp Ass'y (PL 4) |
| K 10 | RWN9M1300AJH | Socket/Lamp Ass'y (PL 1, 5) |
| K 11 | RWN10M1300AJ | Socket/Lamp Ass'y (PL 2) |
| K 12 | RUS542Z | Spring, Volume |
| K 13 | RMD2056Z | Bracket |
| K 14 | RJE161Z | Lead Wire |
| K 15 | RJS0R1Z | Socket |
| K 16 | RMX248Z | Insulator |
| K 17 | RMX249Z | Insulator |
| K 18 | RMX250Y | Insulator |
| K 19 | RMX252Y | Insulator |
| K 20 | RMX256Z | Insulator |
| K 21 | XSN3+4S | Screw, Bracket, Socket M'tg |
| K 22 | XWA3B | Washer |
| K 23 | XTN2+4B | Screw, Circuit Board M'tg |
| K 24 | XTV26+5F | Screw, Deck M'tg |
| K 25 | XTV3+6BFN | Screw, Bracket, Circuit Board M'tg |
| K 26 | XNS7D | Nut Volume Mute Int Cum |
| K 27 | RHE5047Z | Screw, Socket M'tg |
| K 28 | RHE5048Z | Screw, Slider M'tg |
| K 29 | RKC80Z | Slider |
| K 30 | RGT1160Z | Name Plate (For RM-1300A) |
| K 30 | RGT1167Z | Name Plate (For RM-1400A) |
| K 31 | RBN651Y | Knob, VOLUME, INT COM (For RM-1300A) |
| K 31 | RBN702Z | Knob, VOLUME, INT COM (For RM-1400A) |
| K 32 | RYTM1100NHD | Mute Knob Ass'y |
| K 33 | RMC910Z | Shield Cover |
| K 34 | RMX260Z | Insulator |
| K 35 | RJP12G10Z | Plug, CN 105, 106 |
| K 36 | RJP2G4Y | Plug, CN 102, 108 |
| K 37 | RJP3G1Z | Plug, CN 109 |
| K 38 | RJP3G10Z | Plug, CN 107 |
| K 39 | RJP3G4Y | Plug, CN 101 |
| K 40 | RJP4G10Z | Plug, CN 104 |
| K 41 | RJS236Q8Z | Plug, CN 103 |
| K 42 | RJS3M1Z | Plug, CN 109 |
| K 43 | RMC805Z | Shield |
| K 44 | RMY188Z | Heat Sink |
| K 45 | RJT1026Z | Terminal |
| K 46 | XTB3+8BFZ | Screw, Heat Sink M'tg |
| K 47 | RHM168Z | Spacer, Heat Sink |
| K 48 | RMC1026Z | Shield |
| K 49 | RMX301Z | Insulator |
| K 50 | RJP10G9Y | Plug, CN 502 |
| K 51 | RJP15G10Z | Plug, CN 601 |
| K 52 | RJP2G9YA | Plug, CN 302 |
| K 53 | RJP3G9YA | Plug, CN 501 |
| K 54 | RJP7G10Z | Plug, CN 304 |
| K 55 | RADAM834 | Display Tube |
| K 56 | RJP2G9Y | Plug (2P), CN 408 |
| K 57 | RJS22Q7Z | Socket, CN 403 |
| K 58 | RJS30Q5Z | Socket, CN 401 |



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